



EBS-4U500

Industrial Computer /
Industrial Computer Barebone

User Manual



E25486

First Edition

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About this manual

This manual provides information about the hardware and software features of your Industrial Computer / Industrial Computer Barebone, organized through the following chapters:

Chapter 1: Getting to know your Industrial Computer / Industrial Computer Barebone

This chapter details the hardware components of your Industrial Computer / Industrial Computer Barebone.

Chapter 2: Using your Industrial Computer / Industrial Computer Barebone

This chapter provides you with information on using your Industrial Computer / Industrial Computer Barebone.

Chapter 3: Installing the accessories

This chapter provides you with information on how to install the accessories of your Industrial Computer / Industrial Computer Barebone.

Appendix

This section includes notices and safety statements your Industrial Computer / Industrial Computer Barebone.

Conventions used in this manual

To highlight key information in this manual, some text are presented as follows:

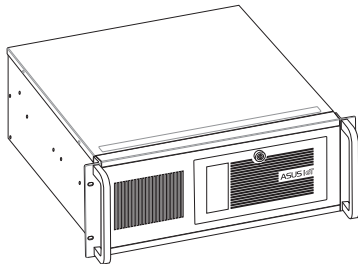
IMPORTANT! This message contains vital information that must be followed to complete a task.

NOTE: This message contains additional information and tips that can help complete tasks.

WARNING! This message contains important information that must be followed to keep you safe while performing certain tasks and prevent damage to your Industrial Computer / Industrial Computer Barebone's data and components.

Package contents

Your Industrial Computer / Industrial Computer Barebone package contains the following items:



EBS-4U500

Accessory package

- 1 x Accessory box (including 2 handles, 2 handle brackets, 1 key, 6 screw packs and 1 EBS-4U500 bracket)
- 1 x AC power cord (optional)
- 1 x M.2 screw

NOTE:

- Some bundled accessories may vary with different models.
 - The device illustration is for reference only. Actual product specifications may vary with models.
 - If the device or its components fail or malfunction during normal and proper use within the warranty period, bring the warranty card to the ASUS Service Center for replacement of the defective components.
-

1

***Getting to know your
Industrial Computer /
Industrial Computer
Barebone***

1.1 Welcome!

Thank you for choosing the ASUS EBS-4U500!

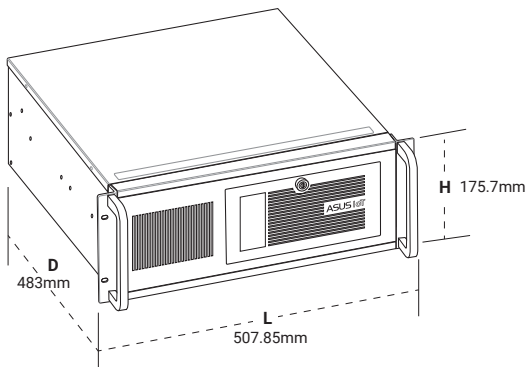
The ASUS EBS-4U500 provides cutting-edge performance and uncompromised reliability for industrial use.

1.2 Brief introduction

Color: Black or Gray-white

Net weight: < 10.4kg (including the chassis and accessories)

Form factor: 430.0mm (D) x 457.7mm (L) x 175.7mm (H) (w/o handles)
483mm (D) x 507.85mm (L) x 175.7mm (H) (with handles)



Operation temperature: 0~40°C

Storage temperature: -15~60°C

Relative humidity: 10% - 95% @40°C

OS support:

Windows® 7 (32/64bit)

Windows® 10 (64bit)

Windows® 10 IoT Enterprise

Windows® 11 IoT Enterprise

Ubuntu

RedHat Enterprise

Fedora Workstation

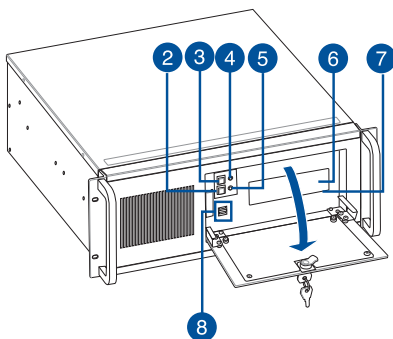
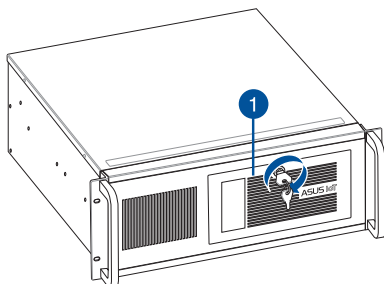
OpenSUSE

NOTE: The operating systems that the product can actually support are detailed in the user manual of the embedded motherboard. For more information, please visit <https://iot.asus.com/industrial-motherboards/all-series/filter/>.

1.3 Features

1.3.1 Front view

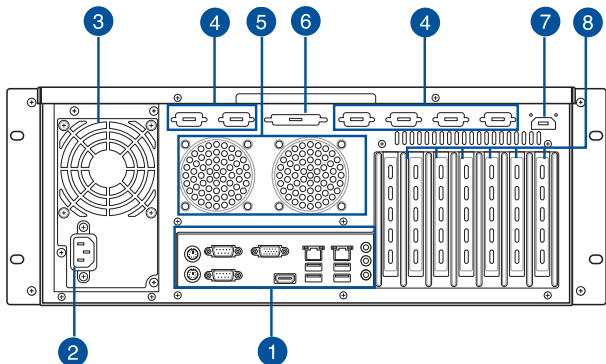
The front panel includes a knockout slot of optical disk drive, power button, reset button, LED indicators and two USB ports.



- 1 Cabinet cover**
Use the key to lock or unlock the cabinet cover.
- 2 Reset button**
Press this button to reset the system.
- 3 Power button**
Press this button to turn the system on or off.
- 4 P-LED**
The LED lights up or blinks to indicate the status of the system power.
- 5 H-LED**
The LED lights up or blinks to indicate the status of the HDD.
- 6 5.25-inch optical disk drive knockout slot (empty)**
Allows you to install an additional optical disk drive in this bay.
- 7 3.5-inch and 2.5-inch drive bay (empty, left side of the chassis)**
This 3.5 inch drive bay is for 3.5 inch hard disk drives / memory card readers.
- 8 USB 2.0 ports**
These USB 2.0 ports connect to front-panel control external devices such as mice and keyboards.

1.3.2 Rear view

The rear panel includes I/O ports of the motherboard, a power connector, knockout slots for parallel ports, serial ports, and the remote power control port.



1 Rear I/O ports

For detailed information of the rear I/O and specifications of the motherboard in your product, please refer to the user manual of the embedded motherboard you have selected, which can be identified on the rating label affixed to your product.

2 Power connector

Plug the power cord to this connector.

300W: 8A/4A, 100-127Vac/200-240Vac, 47-63Hz

500W: 8A, 100-240Vac, 47-63Hz

850W: 100-240Vac, 15-7.5A, 50Hz-60Hz

1300W: 110-240Vac, 15-7.5A, 50Hz-60Hz

Mini red 500W: 100-240Vac, 8-4A, 60-50Hz (x2)

WARNING! Electrical Shock Hazard! The device utilizes multiple power sources. Ensure all power sources are completely disconnected before performing any maintenance.

3 **Power supply unit fan vent**

This vent is for the PSU fan that provides ventilation inside the power supply unit.

4 **COM ports (optional)**

These 9-pin COM ports are for pointing devices or other serial devices.

5 **Air vents**

These vents allow air ventilation.

DO NOT block the air vents on the chassis. Always provide proper ventilation for your computer.

6 **Parallel port (optional)**

This 25-pin port connects a parallel printer, a scanner, or other devices.

7 **Remote power control (optional)**

This port allows customers to install a cable switch at the back to control the machine flexibly.

NOTE: The recommended screw specification is M3 x 5mm.

8 **Expansion slot brackets**

Remove the expansion slot bracket when installing an expansion card.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

2

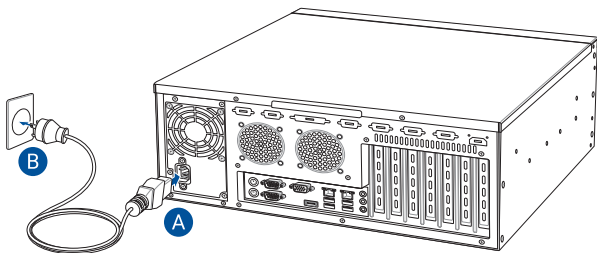
***Using your Industrial
Computer / Industrial
Computer Barebone***

2.1 Getting started

2.1.1 Connect the power cord

To connect the power cord to your Industrial Computer:

- A. Connect the power cord to the Industrial Computer.
- B. Plug the AC power adapter into a 100 V~240 V power source.



IMPORTANT!

- We strongly recommend that you use only the power cord that came with your Industrial Computer.
 - We strongly recommend that you use a grounded wall socket while using your Industrial Computer.
 - The socket outlet must be easily accessible and near your Industrial Computer.
 - To disconnect your Industrial Computer from its main power supply, unplug your Industrial Computer from the power socket.
-

CAUTION!

- Do not use power cord from other devices to reduce the risk of injury to persons due to fire or explosion. Use only UL certified power cord supplied by the manufacturer or authorized retailers.
 - Do not disable or remove the power cord grounding plug, the grounding is an important safety feature.
 - Ensure to plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
-

2.1.2 Connect a display panel to your Industrial Computer

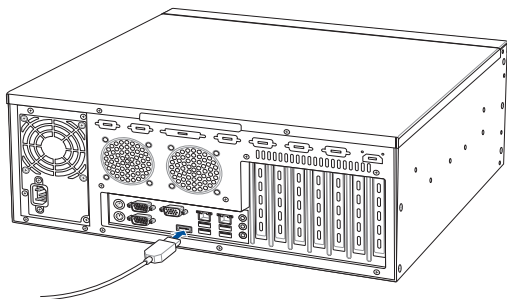
You can connect a display panel or projector to your Industrial Computer that has the following connectors:

- HDMI™ connector

To connect a display panel to your Industrial Computer:

Connect one end of an HDMI™ cable to an external display, and the other end of the cable to your Industrial Computer's HDMI™ port.

Connect display via HDMI™ port



2.1.3 Connect the USB cable from keyboard or mouse

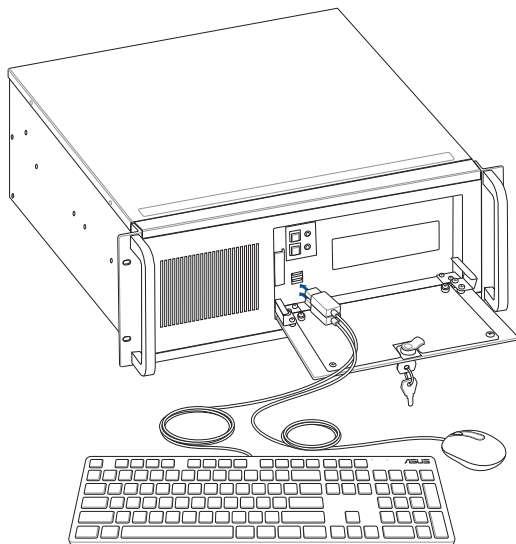
You can connect generally any USB keyboard and mouse to your Industrial Computer. You can also connect a USB dongle for a wireless keyboard and mouse set.

To connect a keyboard and mouse to your Industrial Computer:

Connect the USB cable from your keyboard and mouse to the USB ports on the front panel of your Industrial Computer.

NOTES:

- The keyboard varies with country or region.
 - The keyboard and mouse are purchased separately.
-



2.1.4 Turn on your Industrial Computer

Press the power button to turn on your Industrial Computer.

2.2 Turning off your Industrial Computer

If your Industrial Computer is unresponsive, press and hold the power button for at least four (4) seconds until your Industrial Computer turns off.

2.3 Putting your Industrial Computer to sleep

To put your Industrial Computer on Sleep mode, press the Power button once.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

3

Installing the accessories

IMPORTANT!

- Ensure that your hands are dry before proceeding with the rest of the installation process. Before installing any of the features in this guide, use a grounded wrist strap or touch a safely grounded object or metal object to avoid damaging them due to static electricity.
 - Turn off the power of your Industrial Computer / Industrial Computer Barebone, and allow it to cool for at least 10 minutes before performing any installation/uninstallation process.
-

NOTE: The illustrations in this section are for reference only.

3.1 Installing the handles

1. Prepare the following two handle bracket screw packs, two handle brackets and two handles from the accessory box.



x8 (#6-32 *9.5 (P), for handle brackets)



x2

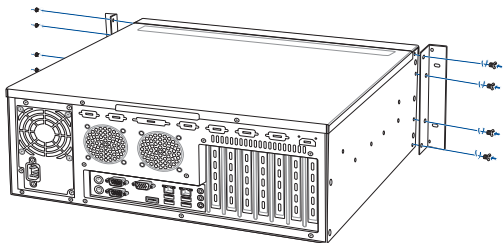


x8 (M4 * 6 (K), for handles)

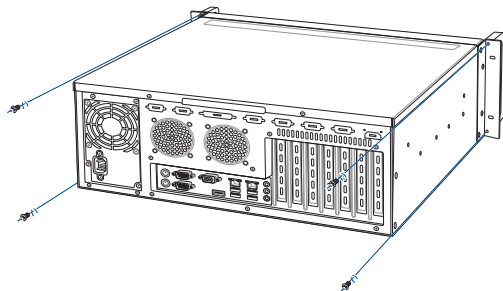


x2

2. Turn off your Industrial Computer / Industrial Computer Barebone then disconnect all cables and peripherals, and place it on a flat stable surface.
3. Align the handle brackets with the screw holes on both sides of the Industrial Computer / Industrial Computer Barebone and secure with eight (8) screws with a recommended torque of 6.0 ± 0.5 kgf-cm.

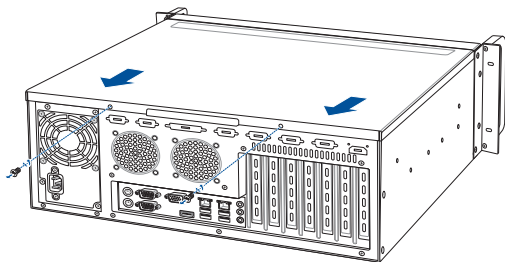


4. Align the handles with the screw holes on the handle brackets and secure with four (4) screws with a recommended torque of 6.0 ± 0.5 kgf-cm.



3.2 Removing the top cover

1. Remove the two (2) screws that secure the top cover.
2. After removing the screws, slide to remove the top cover and place it aside.

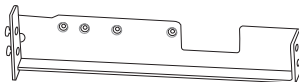


3.3 Installing the VGA bracket

1. Prepare the VGA screw pack and the VGA bracket in the accessory box.

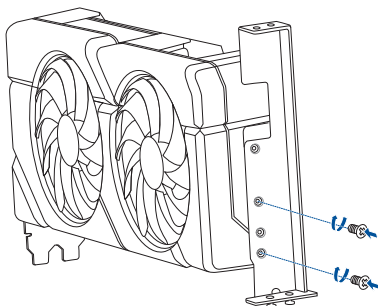


x4 (M3 *4 (F), for VGA)

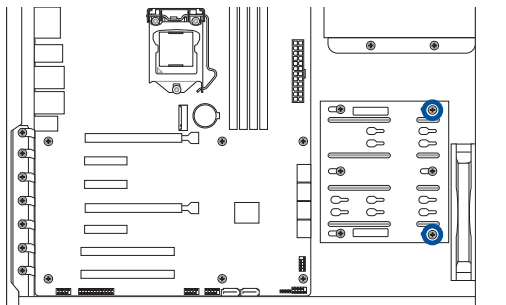


x1

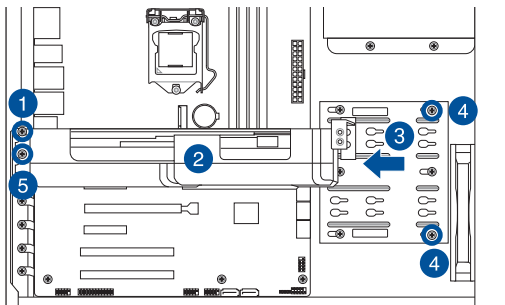
2. Align the VGA bracket with the screw holes on the side of your graphics card and secure with two screws with a recommended torque of 3.0 ± 0.5 kgf-cm.



3. Remove the two screws marked in blue circle from the VGA card holder.

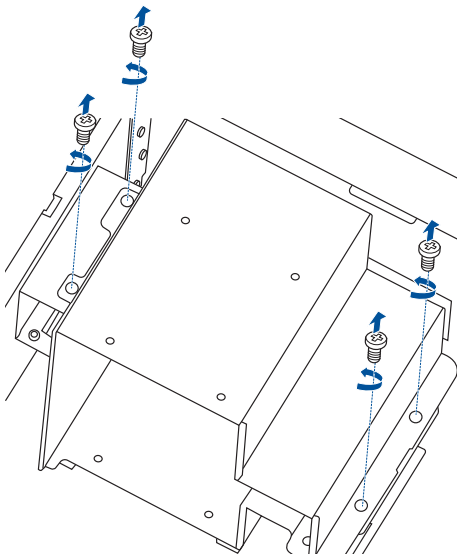


4. Remove the expansion slot bracket beside the graphics card slot from the rear side of the chassis and put the two screws for later use.
5. Install your VGA card to the graphics card slot.
6. Slide the VGA bracket holder towards the installed VGA card.
7. Secure the VGA card holder with the two screws you removed earlier with a recommended torque of 6.0 ± 0.5 kgf-cm.
8. Secure the VGA card to the rear side of the chassis with the two screws you removed earlier with a recommended torque of 6.0 ± 0.5 kgf-cm.



3.4 Installing HDDs (2.5" / 3.5")

1. Remove the four screws (M4) that secure the HDD bracket.



2. Prepare the 2.5" and/or 3.5" HDD screw pack(s).



x12 (M3 * 5 (K), for 2.5" HDD)

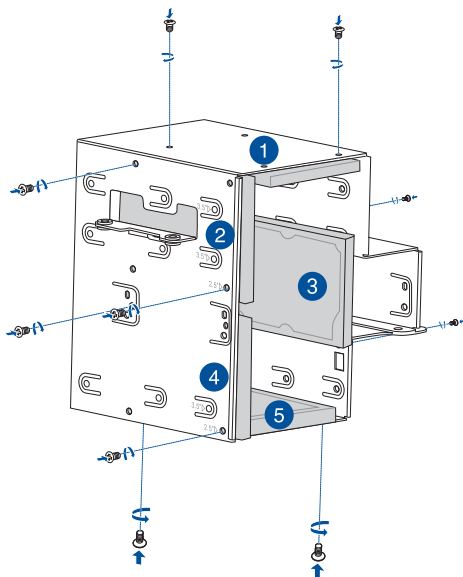


x12 (#6-32 * 6 (K), for 3.5" HDD)

3. Follow the sequence below to secure each of your HDD to the HDD bracket.

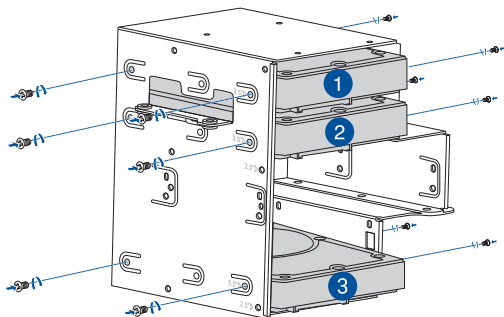
2.5" HDDs:

(securing each with two screws diagonally with a recommended torque of 2.5~3.0kgf-cm)



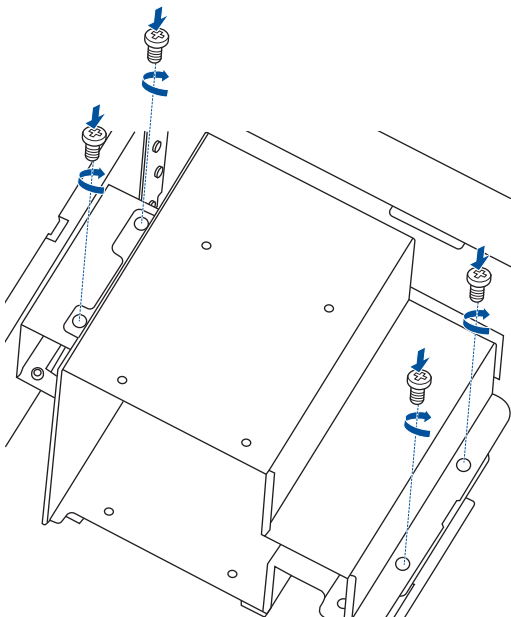
3.5" HDDs:

(securing each with four screws with a recommended torque of 6.0 ± 0.5 kgf-cm)



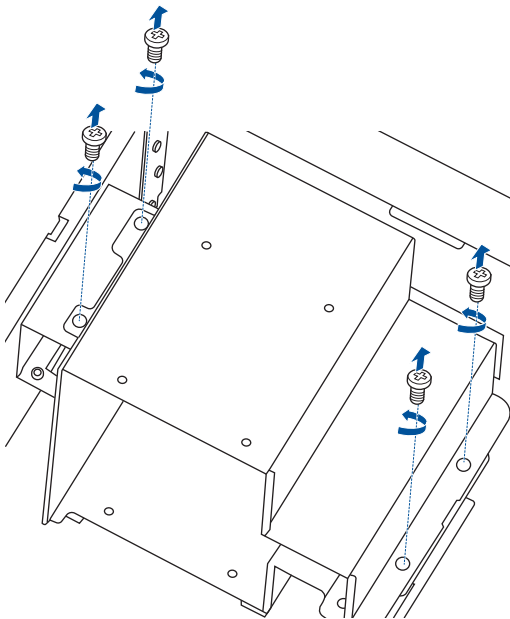
4. Connect the HDD cable(s) to the storage device(s) and the SATA port(s) on the motherboard.

5. Secure the HDD bracket using four screws (M4) you removed earlier with a recommended torque of 8.0 ± 0.5 kgf-cm.



3.5 Installing ODD (3.5")

1. Remove the four screws (M4) that secure the HDD bracket.

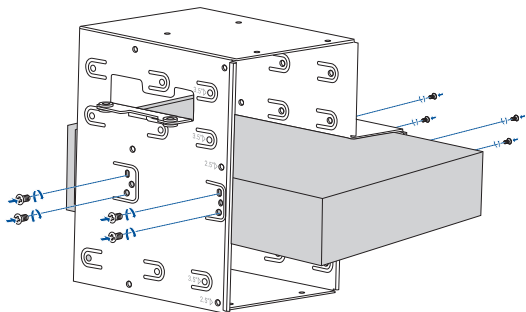


2. Prepare the 3.5" HDD screw pack.

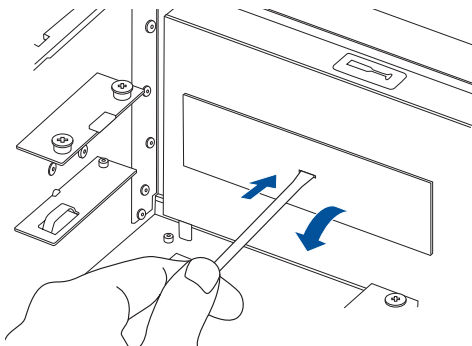


x12 (#6-32 * 6 (K), for 3.5" ODD)

- Secure your ODD to the HDD bracket with eight (8) screws with a recommended torque of 6.0 ± 0.5 kgf-cm.

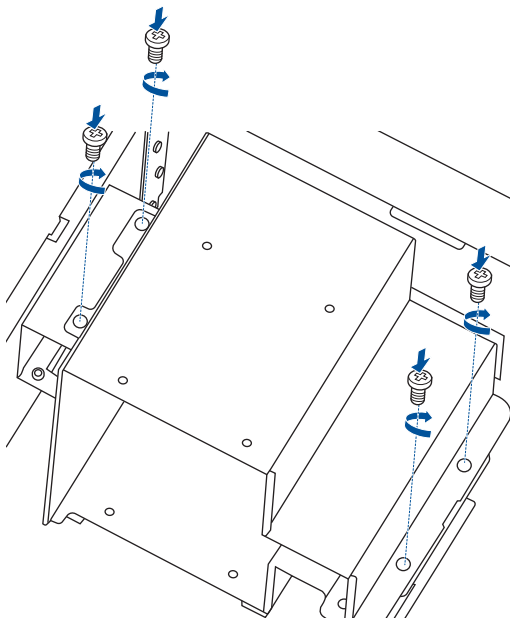


- Use a flat screw driver to remove the ODD bay shield from the internal side of the chassis.



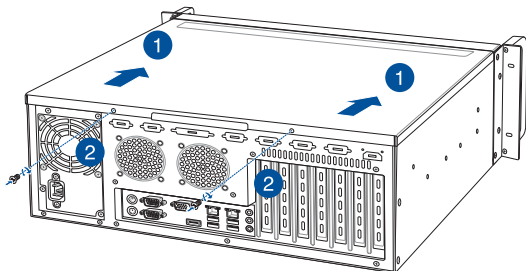
- Connect the ODD cable to the ODD and the SATA port on the motherboard.

6. Secure the HDD bracket using four screws (M4) you removed earlier with a recommended torque of 8.0 ± 0.5 kgf-cm.



3.6 Replacing the top cover

1. Put the top cover on the chassis and slide to close.
2. Use two (2) screws you removed earlier to secure the top cover.



Appendix

Safety information

Your Industrial Computer / Industrial Computer Barebone is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source.
- Set up the system on a stable surface.
- Peripherals with extended temperature tolerance will allow this product to be used in environments with ambient temperatures between -20°C and 40°C.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.
- For your safety, only connect this device to a properly grounded electrical outlet.
- This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.
- Restricted Access Area:
The equipment should only be installed in a Restricted Access Area where both these conditions apply:
 - access can only be gained by skilled or instructed person who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and
 - access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.
- This device shall not be connected to an Ethernet network with outside plant routing.

Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned off, a small amount of electrical current still flows. Always unplug the power cord from the power outlets before cleaning the system.
- Please use this product with care when operating this product at full load, as the product may reach temperatures of up to 60°C and the outer casing may reach temperatures of up to 72°C
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
 - The power cord or plug is damaged.
 - Liquid has been spilled into the system.
 - The system does not function properly even if you follow the operating instructions.
 - The system was dropped or the cabinet is damaged.
 - The system performance changes.

Lithium-Ion Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

NO DISASSEMBLY

The warranty does not apply to the products that have been disassembled by users



DO NOT throw the Industrial Computer / Industrial Computer Barebone in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical, electronic equipment, and mercury-containing button cell battery) should not be placed in municipal waste. Check local technical support services for product recycling.

Regulatory notices

COATING NOTICE

IMPORTANT! To provide electrical insulation and maintain electrical safety, a coating is applied to insulate the device except on the areas where the I/O ports are located.

Federal Communications Commission Statement

FCC Compliance Information

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

HDMI Trademark Notice

The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.



ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <https://esg.asus.com/en/Takeback.htm.htm> for detailed recycling information in different regions.

Compliance Statement of Innovation, Science and Economic Development Canada (ISED)

This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3(A)/NMB-3(A)

Déclaration de conformité de Innovation, Sciences et Développement économique Canada (ISED)

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3(A)/NMB-3(A)

KC: Korea Warning Statement

Class A:

사용자 안내문

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

VCCI: Japan Compliance Statement

Class A ITE

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI - A

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at <https://esg.asus.com/Compliance.htm>.



DO NOT throw the product in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

Service and Support

Visit our multi-language website at <https://www.asus.com/support/>.



Manufacturer	ASUSTeK Computer Inc.	
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