eIVP-CFS-AI-D0000

Intel® 8th Gen Core™ i5 AI Box

User's Manual

EverFocus

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Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references.

➢ All cautions and warnings on the device should be noted.

➢ All cables and adapters supplied by EverFocus are certified and in accordance with the material safety laws and regulations of the country of sale. Do not use any cables or adapters not supplied by EverFocus to prevent system malfunction or fires.

➢ Make sure the power source matches the power rating of the device.

➢ Position the power cord so that people cannot step on it. Do not place anything over the power cord.

➢ Always completely disconnect the power before working on the system's hardware.

➢ No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.

➢ If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.

➢ Always disconnect this device from any AC supply before cleaning.

➢ While cleaning, use a damp cloth instead of liquid or spray detergents.

➢ Make sure the device is installed near a power outlet and is easily accessible.

➢ Keep this device away from humidity.

➢ Place the device on a solid surface during installation to prevent falls.

➢ Do not cover the openings on the device to ensure optimal heat dissipation.

➢ Watch out for high temperatures when the system is running.

➢ Do not touch the heat sink or heat spreader when the system is running.

➢ Never pour any liquid into the openings. This could cause fire or electric shock.

➢ As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

➢ If any of the following situations arises, please contact our service personnel (ts@everfocus.com.tw):

  - Damaged power cord or plug
  - Liquid intrusion to the device
  - Exposure to moisture
  - Device is not working as expected or in a manner as described in this manual
  - The device is dropped or damaged
  - Any obvious signs of damage displayed on the device

➢ DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE SPECIFICATION) TO PREVENT DAMAGE.

FCC Statement

Warning!

This device complies with Part 15 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.

Caution:

There is a danger of explosion if the 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 and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.

Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

This product complies with the High-Definition Multimedia Interface (HDMI) Specification Adopter Agreement.

TABLE OF CONTENTS

Chapter

1

1. Introduction

The eIVP-CFS-AI-D0000 is a small-sized AI Box adopting Intel® 8th Gen Core™ i5-8500 CPU with Intel® H310 chipset. The small footprint makes it suitable to fit on any desk or rear monitors by using the VESA hole patterns.

Featured with an integrated heat sink and fan, the eIVP-CFS-AI-D0000 comes with dual channel DDR4 SO-DIMM memory slots, supporting up to 32GB memory. For storage, the model has a 2.5" SATA bay and a M.2 key M (2280) slot, which supports PCIe x4 and SATA3 for SSD.

Connectivity-wise, the eIVP-CFS-AI-D0000 supports additional M.2 (key E 2230) slot for wireless connection; one RS-232 COM port; and two USB 3.1 Gen 1 Type-A ports, two USB 3.1 Gen 1 type-C ports and four USB2.0 ports. For audio and video, the model provides a headphone and a microphone jack on the front panel, an audio line-out jack on the rear panel, and triple display outputs including HDMI, DP and VGA ports.

1.1 Features

- Intel® 8th Gen Core™ i5 Processors, up to 65W
- 260-pin DDR4 2133 MHz SO-DIMM x 2, up to 32GB (16GB per DIMM)
- USB 3.1 Gen1 x 2, USB 3.1 Gen1 (Type C) x 2, USB 2.0 x 4
- M.2 Key E x 1, M.2 Key M x 1, COM x 1, SATA3 x 1
- Realtek 1GbE LAN x 1
- Supports dual display, HDMI 2.0 x 1, DP 1.2a x 1, VGA x 1
- CE, FCC, RoHS certified

1.2   Dimensions
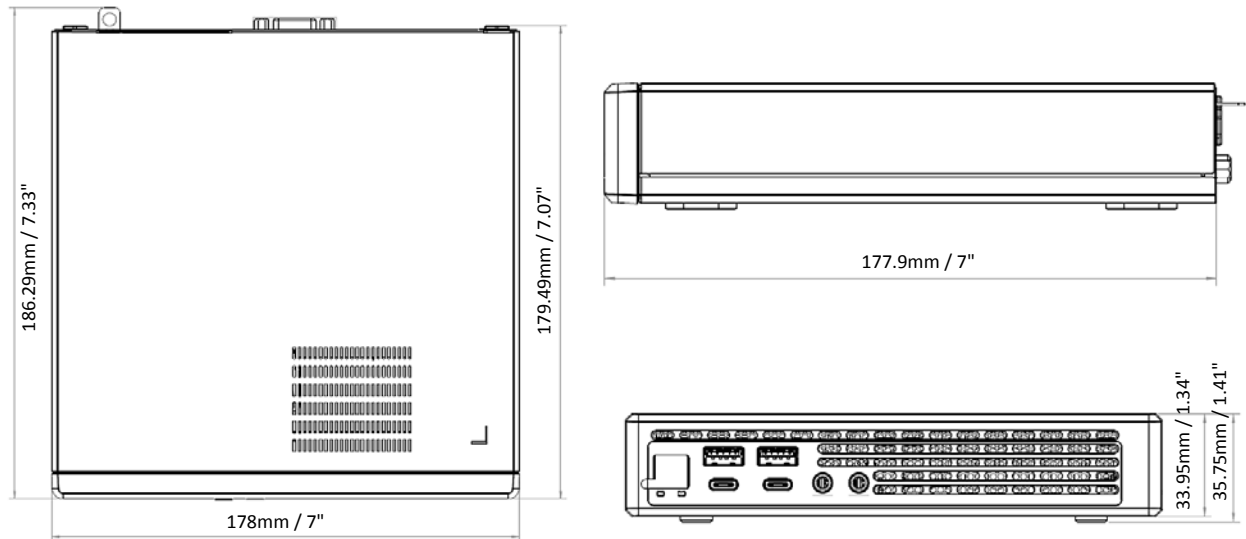
1.3   Packing List

- AI Box x 1
- 19V/90W AC-DC power adapter x 1
- SATA screw package x 1 (already installed inside)
- WiFi antenna x 2 (only for models built-in with WiFi module)
- Stand bracket x 1
- VESA mount bracket and screw package x 1

Note:
1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.

1.4   Front Panel
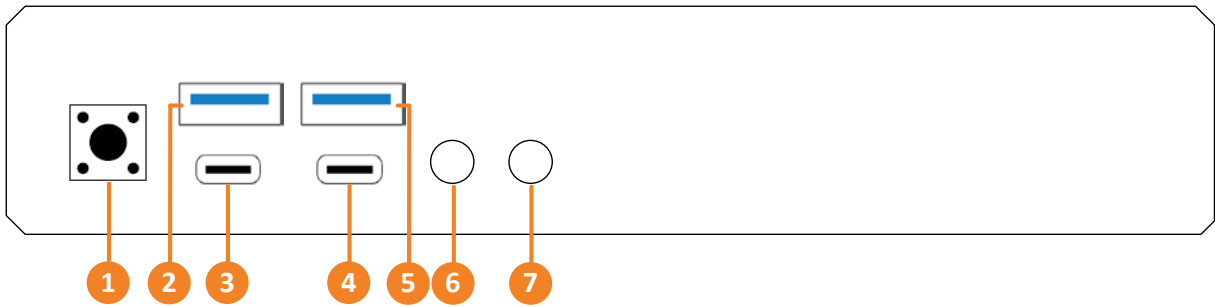
No.	Description	No	Description
1	Power Button (SW1). Press the button to quickly turn on/off the system.	**5**	USB 3.1 Gen1 Type-A Port (USB_2)
2	USB 3.1 Gen1 Type-A Port (USB_1)	**6**	Microphone Input (AUDIO2)
3	USB 3.1 Gen1 Type-C Port (USB31_TC_1)	**7**	Headphone/Headset Jack
4	USB 3.1 Gen1 Type-C Port (USB31_TC_2)		

1.5   Rear Panel
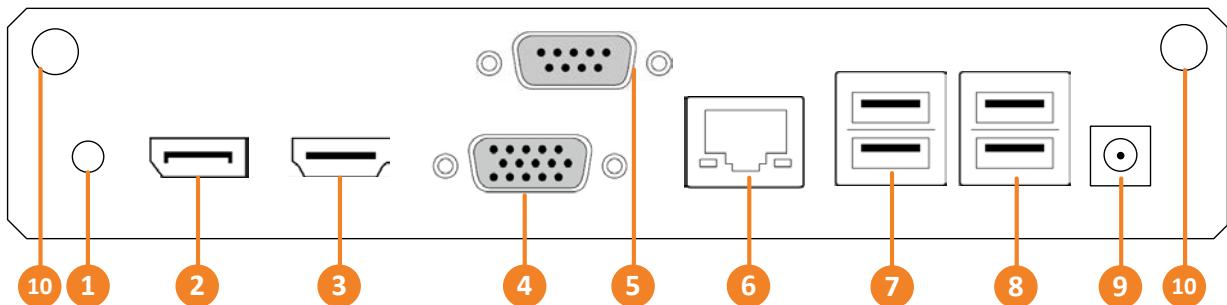
No.	Description	No.	Description
1	Headphone Jack (Audio Line-Out)	**6**	LAN RJ-45 Port (Refer to Note)
2	Display Port	**7**	USB2.0 Ports (USB_4_5)
3	HDMI Port	**8**	USB2.0 Ports (USB_6_7)
4	VGA Port	**9**	DC Jack
5	COM Port (RS-232)	**10**	Antenna Port

Note: There are 2 LED indicators on the LAN port. Please refer to the below LED status.
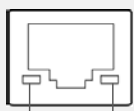
Speed   ACT/LINK

Speed LED Status
Off: 10Mbps connection
Green: 100Mbps connection
Orange: 1Gbps connection

Activity / Link LED Status
Off: No link
Green: Data activity
Orange: Link

2.   Connection and Installation

2.1   Removing the Housing Cover

Make sure the system is power-off. Unscrew the two screws on the rear panel, slightly pull the cover backward and then lift up the cover to remove it.
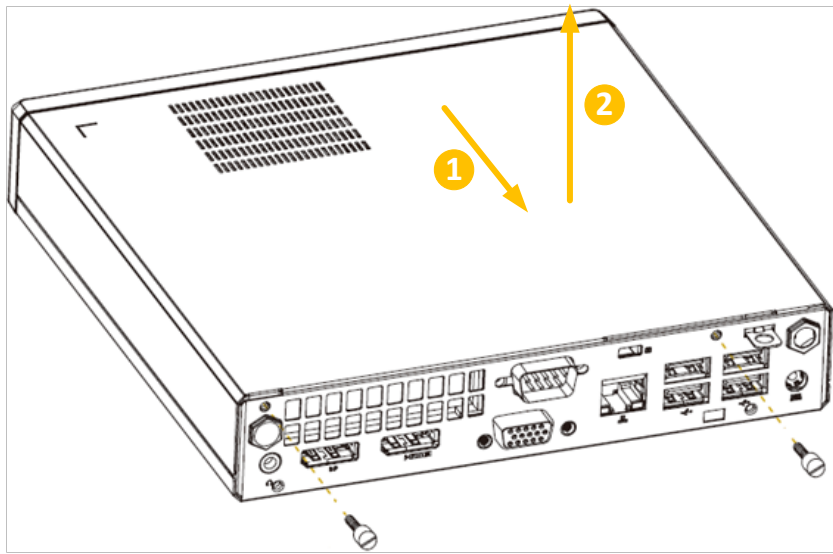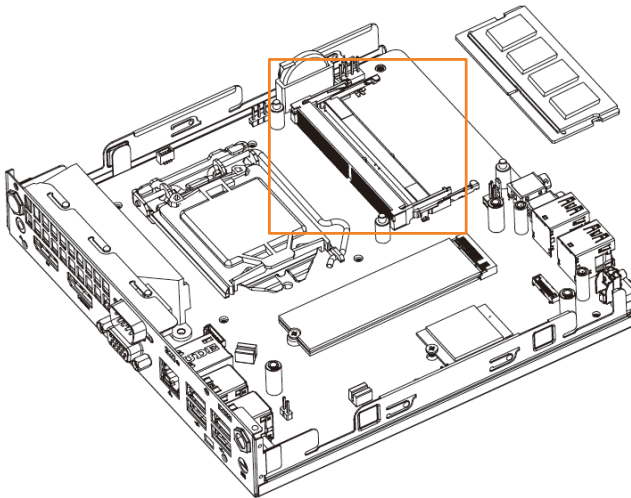
2.2   Memory Modules (SO-DIMM) Installation

You can install up to two 260-pin DDR4 SO-DIMM slots to the system.

Note:

1. It's not allowed to install any DDR rather than DDR4 into the DDR4 slots, such as DDR, DDR2 or DDR3, which may cause damage to the motherboard and SO-DIMM.

2. The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and SO-DIMM if you force the SO-DIMM into the slot at incorrect

1. Find the SO-DIMM slots on the motherboard.

2. Carefully insert the SO-DIMM memory modules into the slots at a 30-degree angle. Push down until the modules snap into place.

SO-DIMM Memory Modules
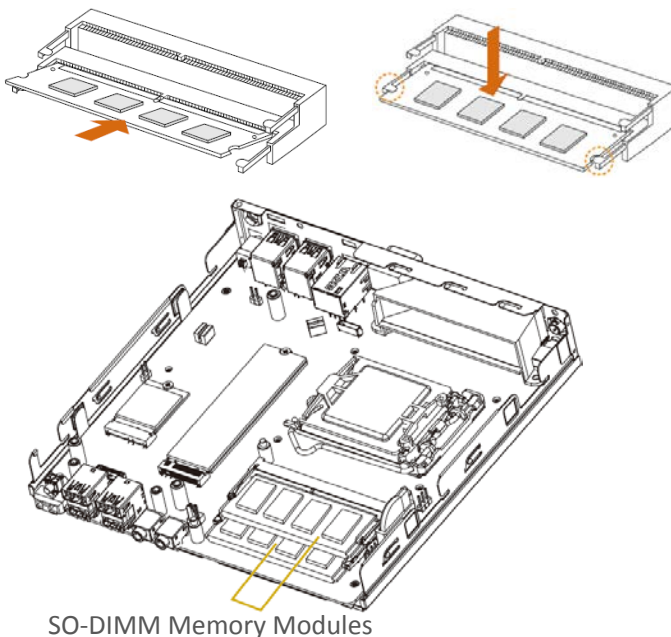
2.3 M.2 SSD Module Installation

The M.2 SSD socket (M2_1) supports SATA3 6Gb/s module and M.2 PCIe module up to Gen3 x4 (32Gb/s).

1. Prepare a M.2 SSD module and a screw.
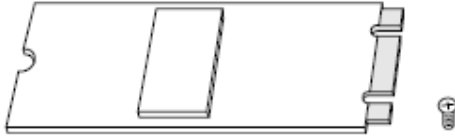
2. Gently insert the M.2 SSD module into the M.2 slot. Please be aware that the M.2 SSD module only fits in one orientation.
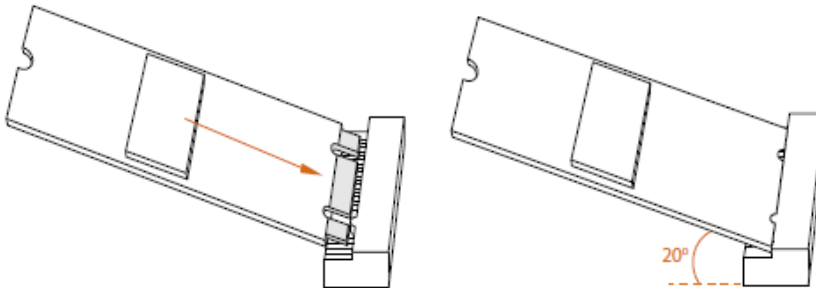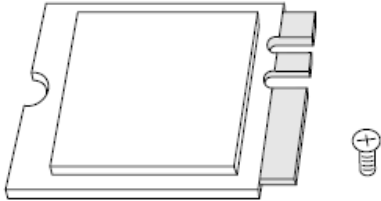

3. Tighten the screw to secure the module into place. Please do not overtighten the screw as this might damage the module.
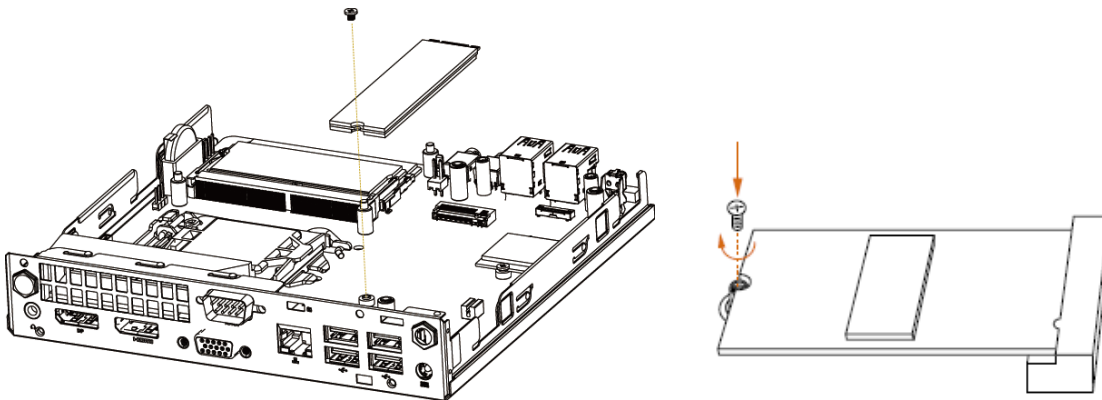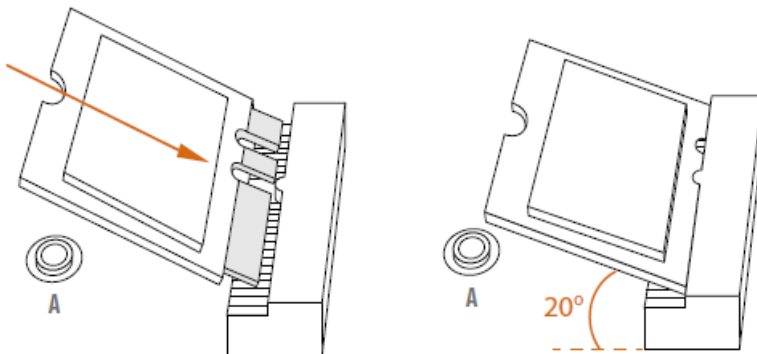
2.4   M.2 WiFi/BT Module Installation

The M.2 key E socket supports type 2230 wireless (WiFi/BT) module. Note that this M.2 socket does not support SATA M.2 SSD.

1.   Prepare a type 2230 wireless module and a screw.

2.   Gently insert the wireless module into the M.2 slot. Please be aware that the M.2 SSD module only fits in one orientation.

3.   Tighten the screw to secure the module into place. Please do not overtighten the screw as this might damage the module.
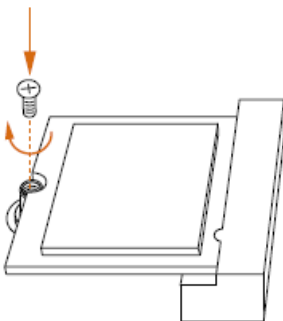
4.   Connect one end of the RF cables to the module and the other end to the Antenna ports on the rear panel of the system.
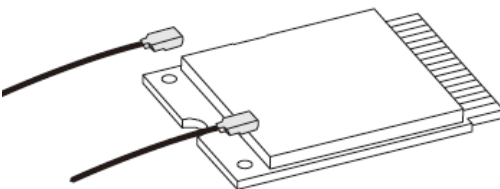
5.   Connect the wireless Antenna to the Antenna ports on the rear panel of the system.
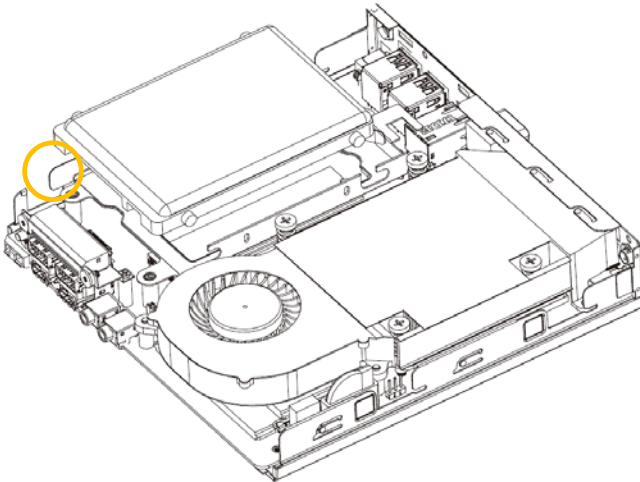
2.5 2.5" SATA HDD Installation

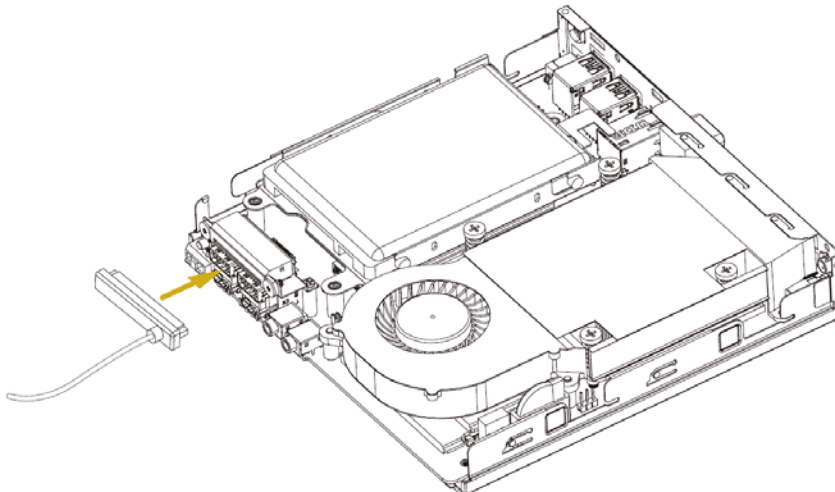You can install one 2.5" SATA SSD/HDD inside the system.

1. Make sure the system is power-off and remove the housing cover.
2. Use the provided screws to secure the HDD on the HDD holder.
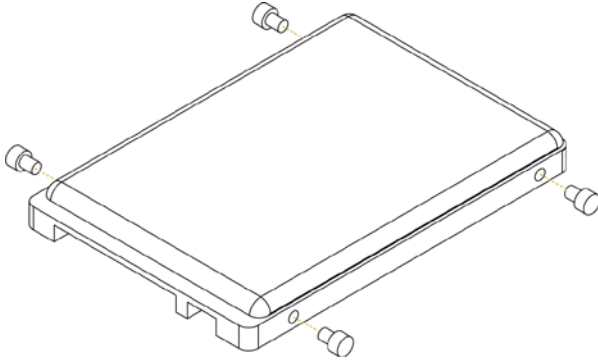
3. Pull the release lever of the HDD bracket outward. Place the HDD into the HDD bracket and slide the HDD into the bracket firmly.
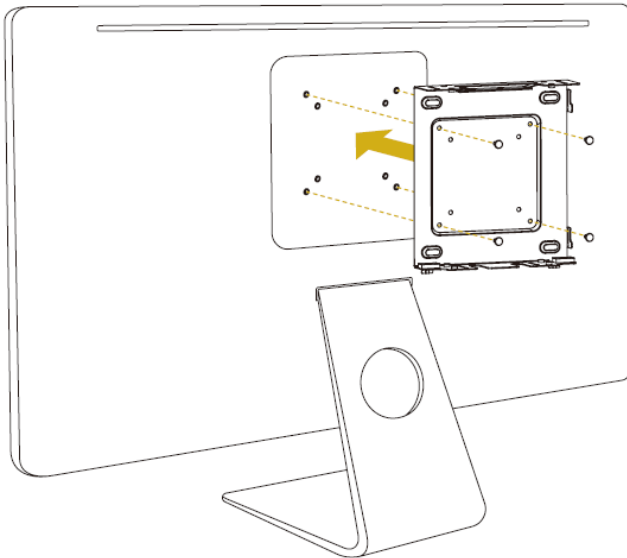

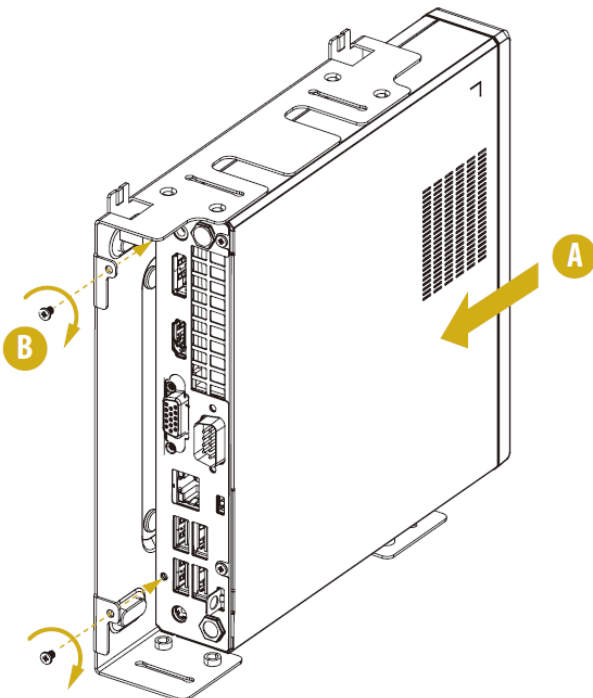4. Connect the HDD SATA cable to the SATA port.

2.6 VESA Mount Installation

You can use the provided VESA mount bracket and screw package to install the system on the rear side of a monitor.

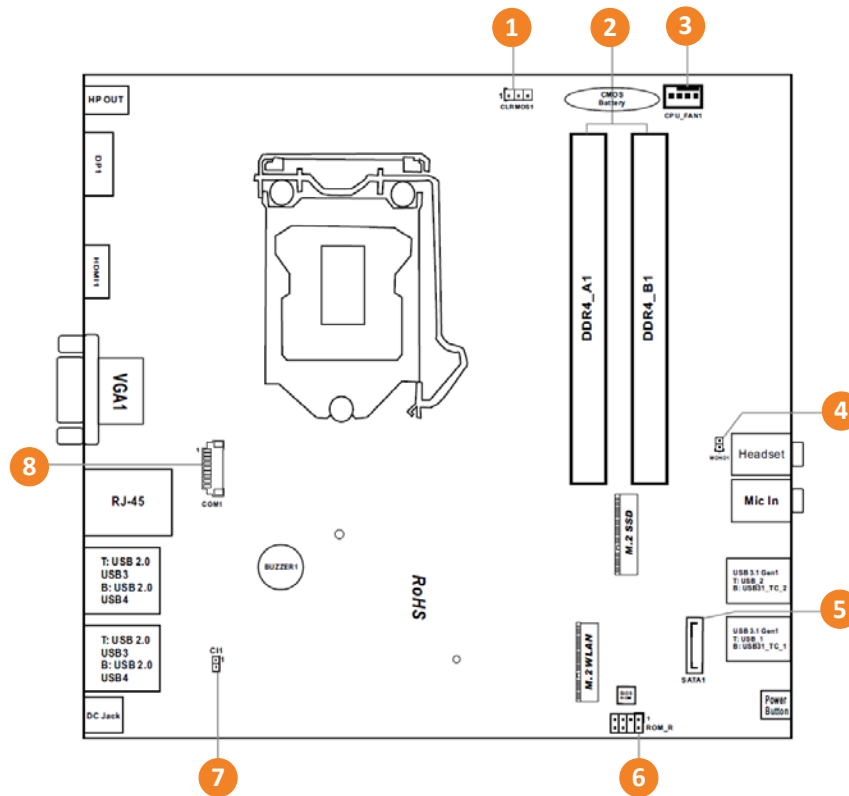1. Screw the VESA mount plate to the rear side of a monitor.

2. Slide the system into the VESA mount plate and then using the M2.5 screws to secure the system to the VESA mount plate.

3. Jumpers and Connectors on the Motherboard

3.1 Motherboard Layout

No.	Description
1	Clear CMOS Jumper (CLRMOS1)
2	2 x 260-pin DDR4 SO-DIMM Slots (DDR4_A1, DDR4_B1)
3	CPU Fan Connector (CPU_FAN1)
4	2.5W Mono Out Speaker Header (MONO1)
5	SATA3 Connector (SATA0)
6	ROM Recovery Header (ROM_R)
7	Chassis Intrusion Header (CI1)
8	COM Port Header (COM1)

3.2 Jumpers Setup

Clear CMOS Jumper (CLRMOS1) allows you to clear the data in CMOS. Please refer to **No.1** in *3.1 Motherboard Layout*.

To clear and reset the system parameters to default setup, please turn off the system and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, and user default profile will be cleared only if the CMOS battery is removed.

Note:

1. The Clear CMOS Button has the same function as the Clear CMOS jumper.
2. If you clear the CMOS, the case open may be detected. Please adjust the BIOS option "Clear Status" to clear the record of previous chassis intrusion status.

The illustration below shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open".

The below illustration shows a 3-pin jumper where pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.
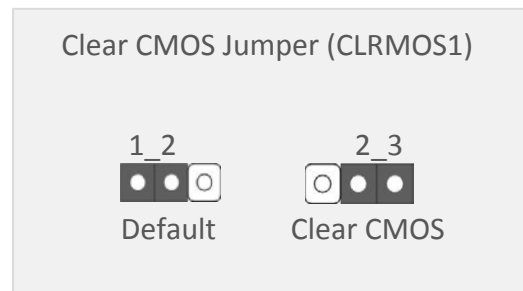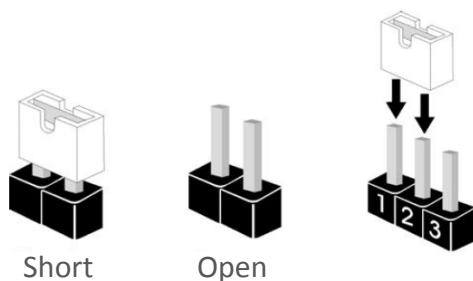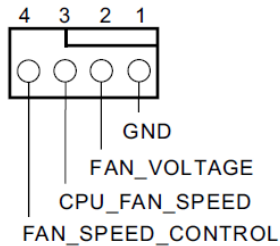
3.3 Onboard Headers and Connectors

Please note that the onboard headers and connectors are **NOT** jumpers. Do NOT place jumper caps over these headers and connectors, otherwise, it will cause permanent damage to the motherboard.

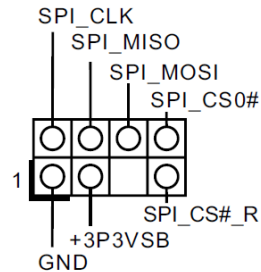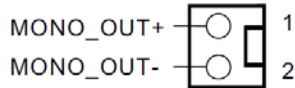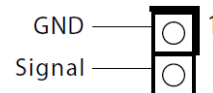|	
CPU Fan Connectors (CPU_FAN1) The motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3. Refer to **No.3** in *3.1 Motherboard Layout*.	**ROM Recovery Header (ROM_R)** Thus header allows qualified technicians to reload firmware into the SPI boot flash in case there is problem with the data. Refer to **No.6** in *3.1 Motherboard Layout*.
2.5W Audio Amp Output Header (MONO1) Please connect the chassis speaker to this header. Refer to **No.4** in *3.1 Motherboard Layout*.	**Chassis Intrusion Header (CI1)** The motherboard supports Case Open detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design. Refer to **No.7** in *3.1 Motherboard Layout*.
Serial ATA3 Connector (SATA0) The SATA3 connector supports SATA data cables for internal storage devices with up to 6.0 Gb/s data transfer rate. Refer to **No.5** in *3.1 Motherboard Layout*.	**Serial Port Header (COM1)** The COM1 header supports a serial port module. Refer to **No.8** in *3.1 Motherboard Layout*.
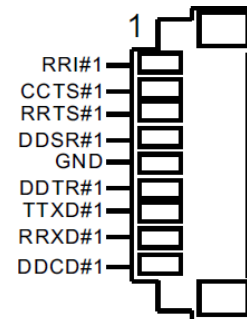
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