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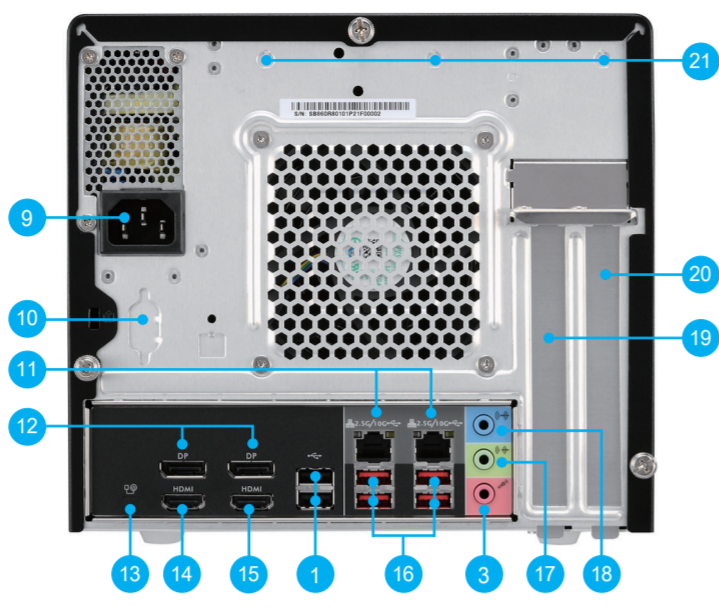
Puede encontrar más información sobre este producto en: <https://bit.ly/SB860R8>  
 本製品の詳細な情報については、次のURLより確認頂けます。 <https://bit.ly/SB860R8>  
 Для получения дополнительной информации об этом продукте перейдите по ссылке: <https://bit.ly/SB860R8>  
 更多本產品信息, 請訪問: <https://bit.ly/SB860R8>

Product Overview

產品外觀 \ Produktübersicht \ Présentation du produit \ Resumen del producto \ 製品概要 \ Обзор продукта \ 产品外观



- 1. USB 2.0 ports
- 2. USB 3.2 Gen1 Type-A port
- 3. Microphone jack
- 4. Headphone jack
- 5. USB 3.2 Gen1 Type-C port
- 6. Power button
- 7. Power LED
- 8. Hard disk drive LED



- 9. AC power socket
- 10. Serial port (optional)
- 11. LAN ports
- 12. DisplayPort
- 13. Clear CMOS & Power Button & +5V
- 14. HDMI 2.1 port
- 15. HDMI 2.0b port
- 16. USB 3.2 Gen2 Type-A ports
- 17. Front speaker out (L/R) port
- 18. Line-in port
- 19. PCIe x16 slot
- 20. PCIe x4 slot
- 21. Perforation for optional WLAN

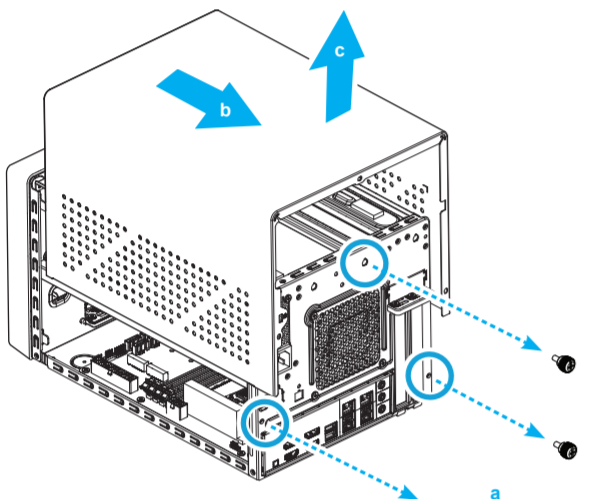
Hardware Installation

硬體安裝 \ Hardware Installation \ Installation du matériel \ Instalación de hardware \ ハードウェアのインストール \ Установка оборудования \ 硬件安裝

A. Begin Installation

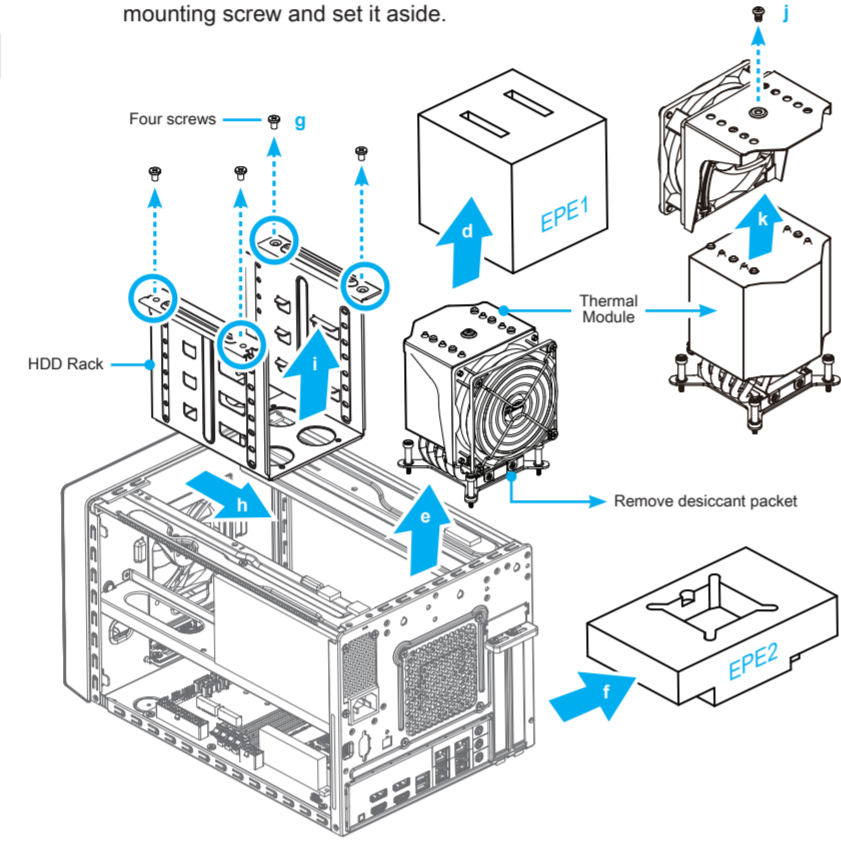
For safety reasons, please ensure that the power cord is disconnected before opening the case.

1. Unscrew 3 thumbscrews of the chassis cover.
2. Slide the cover backwards and upwards.



3. Remove EPE1, the thermal module, and EPE2 from the chassis.
4. Unfasten the rack mount screws and remove the rack.

5. Unfasten the thermal module fan mounting screw and set it aside.



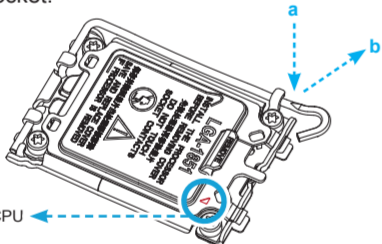
The product's colour and specifications may vary from the actually shipped product.

B. CPU Installation

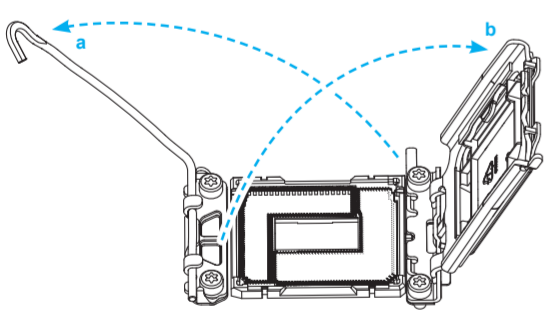
This CPU socket is fragile and can easily be damaged. Always use extreme care when installing a CPU and limit the number of times you remove or change the CPU. Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage of the CPU.

- Follow the steps below to correctly install the CPU into the motherboard CPU socket.

1. Unlock and raise the socket lever.

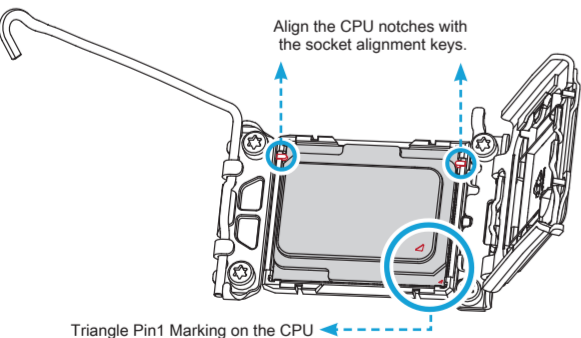


2. Lift the metal load plate off the CPU socket.



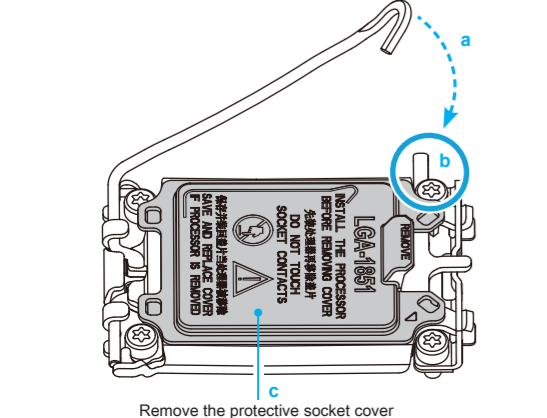
DO NOT touch the socket contacts. To protect the CPU socket, always use the protective socket cover when the CPU is not installed.

3. Please orientate the CPU correctly and align the CPU notches with the socket alignment keys. Make sure the CPU sits perfectly horizontal, then push it gently into the socket.

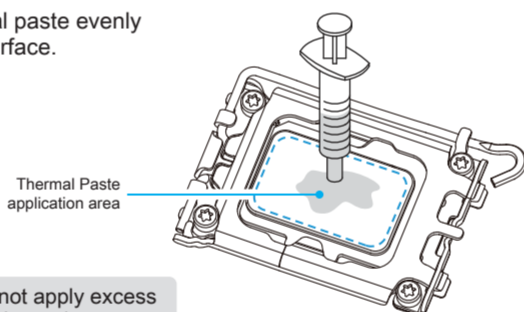


Please be aware of the CPU orientation, DO NOT force the CPU into the socket to avoid bending of pins on the socket and damage of CPU!

4. Close the metal load plate, lower the CPU socket lever, lock it in place, and remove the protective socket cover from the metal load plate.



5. Spread thermal paste evenly on the CPU surface.



Please do not apply excess amount of thermal paste.

C. Memory Module Installation

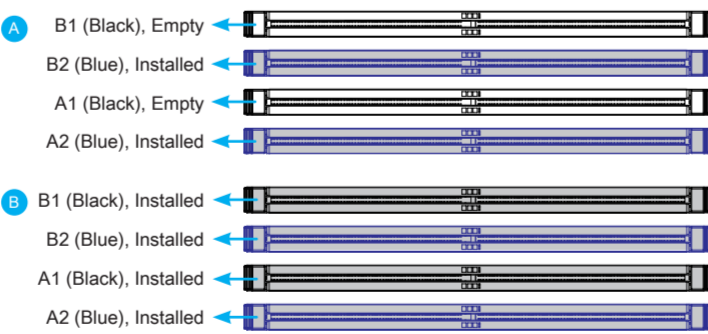
Guidelines for Memory Configuration  
 Before installing DIMMs, read and follow these guidelines for memory configuration.

Make sure that the motherboard supports the memory. It is recommended to use memory modules of the same capacity, brand, speed, and chip type. (Go to Shuttle's website for the latest memory support list.) Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the module, reverse direction.

Installing memory modules

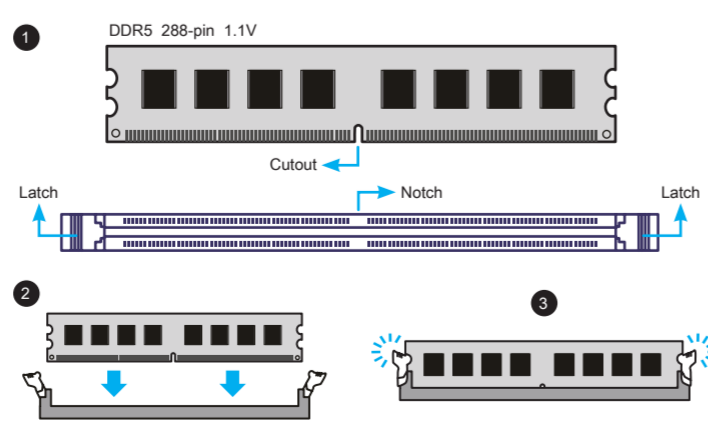
If only 1 DDR5 module need to be installed, please install the module in A2 or B2 slot for your first priority. Follow the steps below to correctly install your memory modules in the memory sockets.

Population rules of dual channel memory modules  
 In Dual-Channel mode, the memory modules can transmit and receive data with two data bus lines simultaneously. Enabling Dual-Channel mode can enhance system performance. The following illustrations explain the population rules for Dual-Channel mode.



1. Unlock the DIMM latch.
2. Align the memory module's cutout with the notch of the DIMM slot. Slide the memory module into the DIMM slot.

A DDR5 memory module has a cutout, so it only fits in one direction.



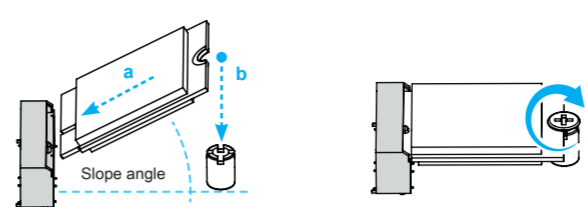
3. Check if the latches are closed and if all memory modules are firmly installed.

Repeat the above steps to install additional memory modules, if required.

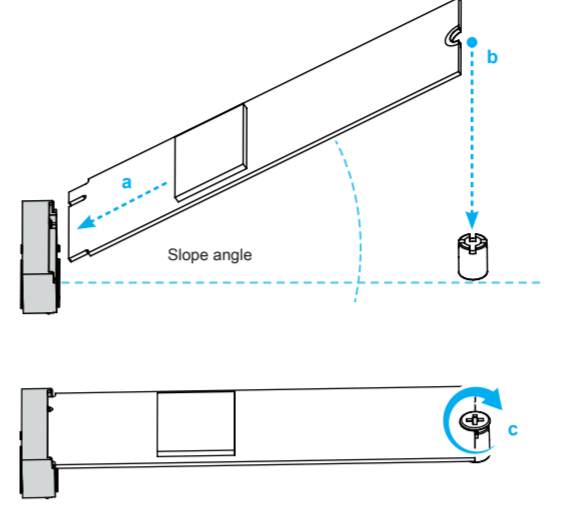
D. M.2 Device Installation

1. Locate the M.2 key slots on the motherboard.
2. Install the M.2 device into the M.2 slot and secure with the screw.

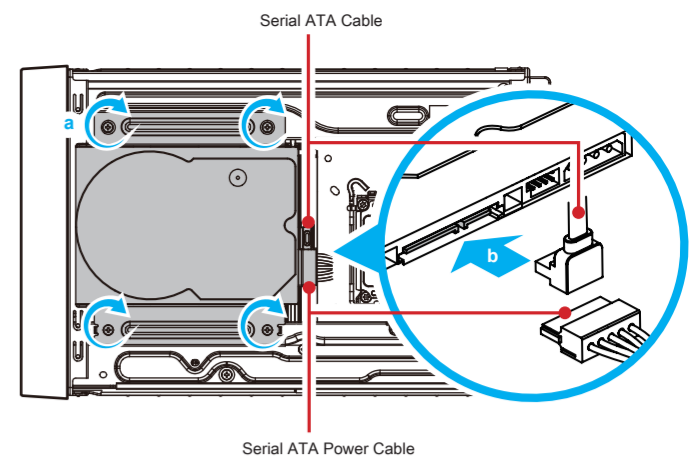
M.2 2230 E key slot



M.2 2280 M key slot



4. Connect the Serial ATA and power cables to the HDD or SSD.



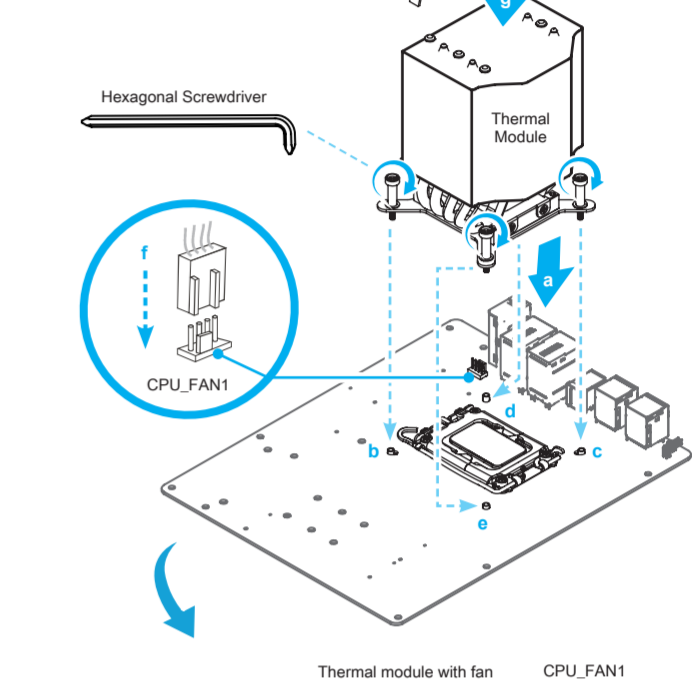
5. Repeat the previous steps to install three further 3.5" drives. The R8 chassis allows for a total of four 3.5" drives to be installed.

F. Installation of Thermal Module

- Follow steps a through h to install the thermal module onto the motherboard.

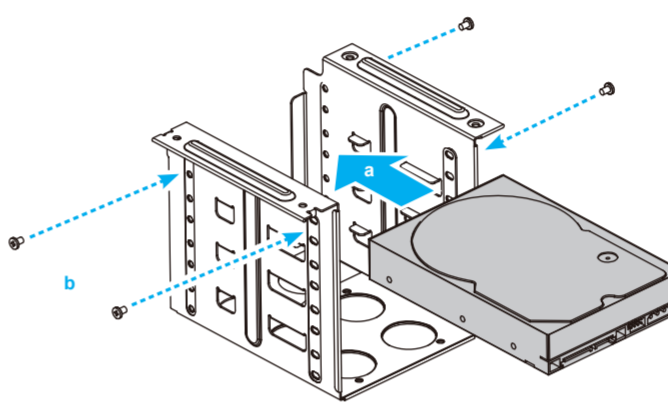
Use a hexagonal screwdriver to tighten the thermal module onto the motherboard.

Be sure to press down on the opposite diagonal corner while tightening each push-pin.

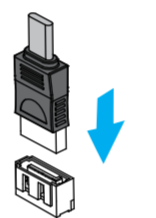


E. Installation of Drives

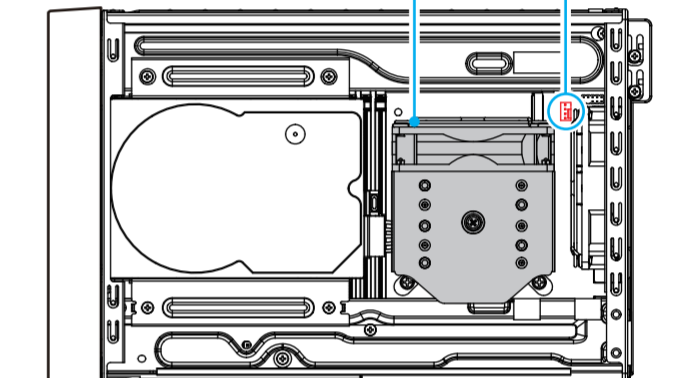
1. Place the HDD or SSD in the rack and secure with screws from the sides.



2. Connect the Serial ATA cable to the motherboard.



3. Place the rack in the chassis and refasten the rack.

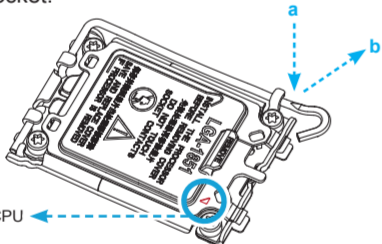


B. CPU Installation

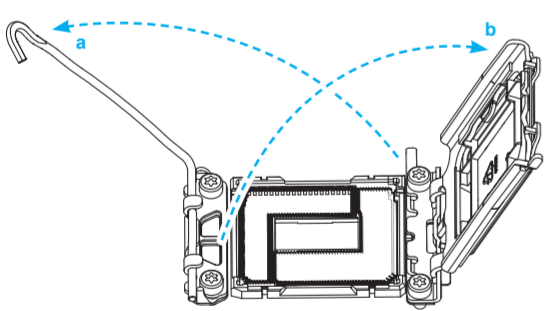
This CPU socket is fragile and can easily be damaged. Always use extreme care when installing a CPU and limit the number of times you remove or change the CPU. Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage of the CPU.

- Follow the steps below to correctly install the CPU into the motherboard CPU socket.

1. Unlock and raise the socket lever.

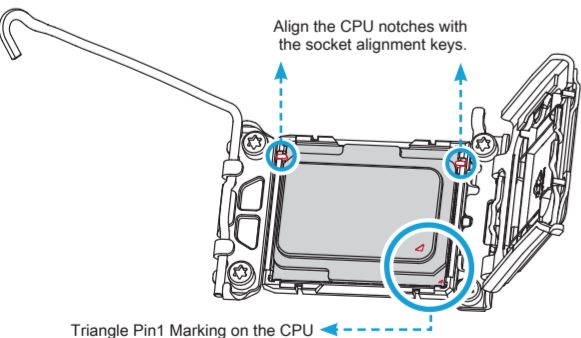


2. Lift the metal load plate off the CPU socket.



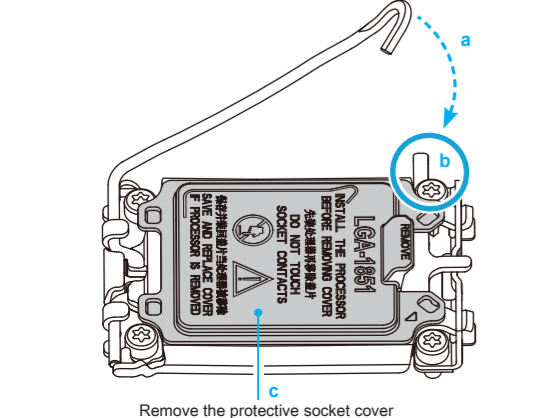
DO NOT touch the socket contacts. To protect the CPU socket, always use the protective socket cover when the CPU is not installed.

3. Please orientate the CPU correctly and align the CPU notches with the socket alignment keys. Make sure the CPU sits perfectly horizontal, then push it gently into the socket.



Please be aware of the CPU orientation, DO NOT force the CPU into the socket to avoid bending of pins on the socket and damage of CPU!

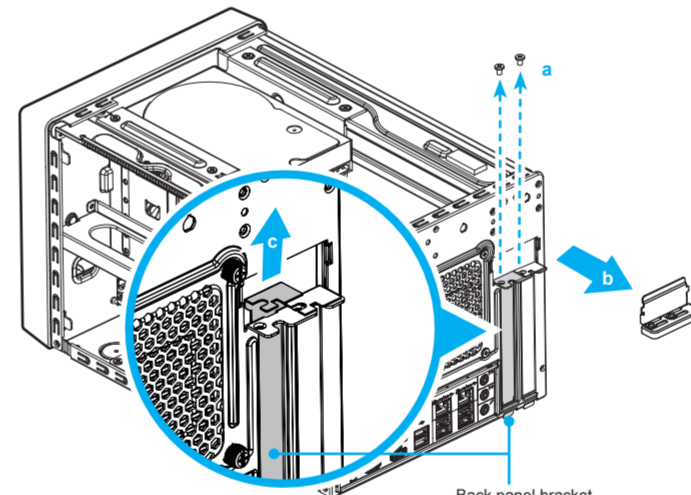
4. Close the metal load plate, lower the CPU socket lever, lock it in place, and remove the protective socket cover from the metal load plate.



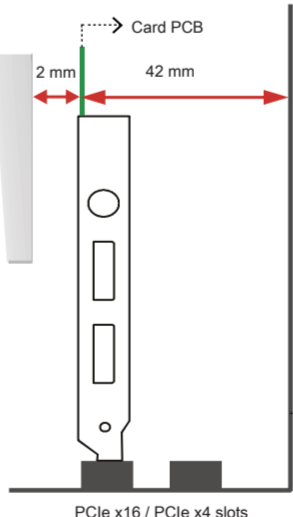
G. Installation of Expansion Cards

1. Unfasten the expansion slot bracket screws. Remove the back panel bracket and put it aside.

The maximum size acceptable for display cards is 280 mm (L) x 120 mm (H) x 40 mm (D).



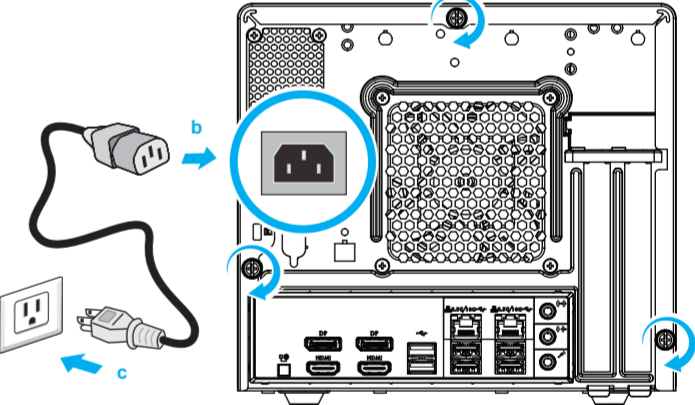
2. Install the PCIe x4 / PCIe x16 card into the PCIe x4 / PCIe x16 slots.



3. Secure the bracket.

H. Complete

1. Replace the cover and tighten the thumbscrews, then connect the power cord.
2. Complete.



Please press the "Del" key while booting to enter BIOS. Here, please load the optimised BIOS settings.

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 device meets the requirements for the EU conformity in accordance to the currently valid EU directives. Dieses Produkt erfüllt die Anforderungen für die EU-Konformität entsprechend der aktuell geltenden EU-Richtlinien. Ce produit répond aux exigences de la conformité UE suivant les directives européennes actuellement en vigueur.

All bundled parts, power cord included, shall not be used without this product. 電源ケーブル等、すべての付属品は本機以外ではご使用になれません。

注意: 仅适用于在非热带气候条件下安全使用, 在热带气候条件下使用时, 可能有安全隐患。  
 注意: 允许产品使用的最高环境温度为 40°C。  
 \* The equipment was evaluated for use in a maximum air ambient temperature of 40 °C.  
 產品宣告最大適用環境溫度為 40 °C。  
 注意: 仅适用于海拔 2000m 以下安全使用, 在海拔 2000m 以上使用时, 可能有安全隐患。

Safety Information

安全資訊 / Sicherheitshinweise / Informations de sécurité / Información de seguridad / 安全に関する情報 / Информаци́я о безопасности / 安全信息

Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries in accordance with the laws of your country.

更換電池方式錯誤可能會損壞本電腦以及引發爆炸、火災或其他危險。僅能依 Shuttle 的建議, 以相同或同等之電池更換。請根據您所在國家/地區的法律規定處理廢電池。

Das unkorrekte Austauschen der Batterie kann diesen Computer beschädigen. Ersetzen Sie die Batterie nur durch den gleichen Typ oder ein gleichwertiges, von Shuttle empfohlenes Modell. Entsorgen Sie gebrauchte Batterien gemäß den gesetzlichen Vorschriften in Ihrem Land.

Ne pas remplacer correctement la pile peut endommager l'ordinateur. Remplacez-la uniquement par un modèle identique ou un équivalent comme recommandé par Shuttle. Éliminez les piles usagées conformément à la législation en vigueur dans votre pays.

La sustitución incorrecta de la batería puede dañar este equipo. Sustituya la batería únicamente por una igual o equivalente recomendada por Shuttle. Elimine las pilas usadas de acuerdo con los requisitos legales de su país.

バッテリーを間違えてセットすると、このコンピュータが損傷の原因となります。交換する際は、Shuttle が推奨するバッテリーと同じものまたは同等のものだけを使用するようにしてください。使用済みのバッテリーは、お住みの国の法律に従って処分してください。

Неправильная замена батареи может привести к повреждению компьютера. Батарея должна соответствовать стандарту производителя Shuttle или быть идентичной предыдущей. Утилизуйте использованные батареи в соответствии с законодательством вашей страны.

更換電池方式錯誤可能會損壞本電腦。僅能依 Shuttle 的建議, 以相同或同等之電池更換。請根據您所在國家/地區的法律規定處理廢電池。

WARNING THIS PRODUCT CONTAINS A BUTTON BATTERY

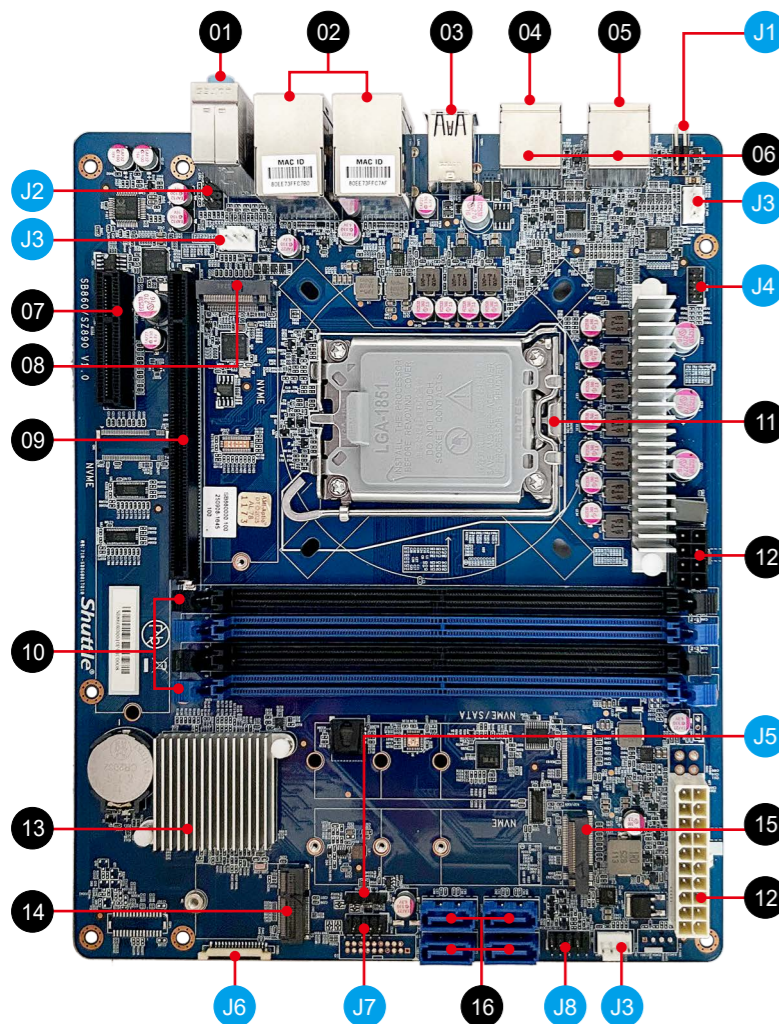
If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours. Keep batteries out of reach of children. If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

1. The statement "remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate."

- (a) Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- (b) Even used batteries may cause severe injury or death.
- (c) Call a local poison control center for treatment information.
- (d) Indicating the compatible battery type CR2032.
- (e) Indicating the nominal battery voltage.
- (f) Non-rechargeable batteries are not to be recharged.
- (g) Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.

2. This Product contains a button Battery/coil cell batteries
  - (a) Ensure the batteries are installed correctly according to polarity (+ and -).
  - (b) Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
  - (c) Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
  - (d) Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.





01. Line-in port  
音源輸入埠  
Audio Line-In Eingang  
Port d'entrée ligne  
Entrada de audio Line-in  
ラインインポート  
Линейный вход  
音源輸入端口

02. LAN ports  
網路連接埠  
Netzwerk-Anschlüsse  
Prises LAN  
Puertos LAN  
LAN 埠  
LAN 埠  
Сетевые LAN-порты  
LAN 连接端口

03. USB 2.0 ports  
USB 2.0 連接埠  
USB 2.0-Anschlüsse  
Prises USB 2.0  
Puertos USB 2.0  
USB 2.0 埠  
USB 2.0 埠  
USB 2.0 埠  
USB 2.0 连接端口

04. HDMI 2.0 port  
HDMI 2.0 連接埠  
HDMI 2.0-Anschluss  
Prise HDMI 2.0  
Puerto HDMI 2.0  
HDMI 2.0 埠  
HDMI 2.0 埠  
HDMI 2.0 连接端口

05. HDMI 2.1 port  
HDMI 2.1 連接埠  
HDMI 2.1-Anschluss  
Prise HDMI 2.1  
Puerto HDMI 2.1  
HDMI 2.1 埠  
HDMI 2.1 埠  
HDMI 2.1 连接埠

02. USB 3.2 Gen2 Type-A Ports  
USB 3.2 Gen2 Type-A 連接埠  
USB 3.2 Gen2 Typ-A-Anschlüsse  
Prises USB 3.2 Gen2 Type-A  
Puertos USB 3.2 Gen2 tipo A  
USB 3.2 Gen2 Type-A 埠  
USB 3.2 Gen2 Type-A 埠  
USB 3.2 Gen2 Type-A 埠  
USB 3.2 Gen2 Type-A 埠

06. DisplayPort  
DisplayPort 連接埠  
DisplayPort  
Prise DisplayPort  
DisplayPort  
ディスプレイポート  
DisplayPort  
DisplayPort 连接埠

07. PCIe Gen4 x 4 slot  
PCIe Gen4 x 4 插槽  
PCIe Gen4 x 4 Steckplatz  
Emplacement PCIe Gen4 x 4  
PCIe Gen4 x 4 Ranura  
PCIe Gen4 x 4 插槽  
Слоты PCIe Gen4 x 4  
PCIe Gen4 x 4 插槽

08. M.2 2280 M key slot (PCIe Gen5)  
M.2 2280 M key 插槽 (PCIe Gen5)  
M.2-2280 (M) Steckplatz (PCIe Gen5)  
Emplacement M.2 2280 M (PCIe Gen5)  
Ranura M.2 2280 M (PCIe Gen5)  
M.2 2280 M 插槽 (PCIe Gen5)  
Слот M.2 2280 M ключ (PCIe Gen5)  
M.2 2280 M key 插槽 (PCIe Gen5)

09. PCIe Gen5 x 16 slot  
PCIe Gen5 x 16 插槽  
PCIe Gen5 x 16 Steckplatz  
Emplacement PCIe Gen5 x 16  
PCIe Gen5 x 16 Ranura  
PCIe Gen5 x 16 插槽  
Слоты PCIe Gen5 x 16  
PCIe Gen5 x 16 插槽

10. 4x 288-pin DDR5 DIMM slot  
4x 288-pin DDR5 DIMM 插槽  
4x 288-pin DDR5 DIMM Steckplatz  
4x emplacements 288-pin pour DDR5 DIMM  
4 ranuras DIMM DDR5 de 288 contactos Slots  
4x 288-pin DDR5 DIMM 插槽  
4x 288 контактный Слот DDR5 DIMM  
4x 288-pin DDR5 DIMM 插槽

11. Processor socket LGA 1851  
LGA 1851 處理器插槽  
Socket für LGA 1851-CPU's  
Socket Processeur LGA 1851  
Zócalo LGA 1851 de CPU  
Процессорный LGA 1851  
Разъем процессора LGA 1851  
LGA 1851 处理器插槽

12. ATX power connector  
電源連接埠  
ATX-Netzteil-Anschluss  
Prise d'alimentation ATX  
Conector de alimentación ATX  
ATX電源コネクタ  
ATX 電源コネクタ  
ATX 電源插座  
ATX 电源插座

13. Intel® B860 chipset  
Intel® B860 晶片組  
Intel® B860 Chipsatz  
Chipset Intel® B860  
Intel® B860 Conjunto de chips  
Intel® B860 Чипсет  
Набор микросхем Intel® B860  
Intel® B860 晶片組

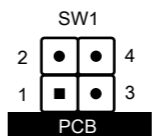
14. M.2 2230 E key slot  
M.2 2230 E key 插槽  
M.2-2230 (E) Steckplatz  
Emplacement M.2 2230 E  
Ranura M.2 2230 E  
M.2 2230 E 插槽  
Слот M.2 2230 E ключ  
M.2 2230 E key 插槽

15. M.2 2280 M key slot  
M.2 2280 M key 插槽  
M.2-2280 (M) Steckplatz  
Emplacement M.2 2280 M  
Ranura M.2 2280 M  
M.2 2280 M 插槽  
Слот M.2 2280 M ключ  
M.2 2280 M key 插槽

16. SATA 3.0 6Gb/s connector  
SATA 3.0 6Gb/s 插槽  
SATA 3.0-Anschlüsse (6 Gb/s)  
Connecteurs SATA 3.0 6Gb/s  
Base de conexiones SATA 3.0 6Gb/s  
SATA 3.0 6Gb/s 插槽  
Разъем SATA 3.0 6 Гбит/с  
SATA 3.0 6Gb/s 接口

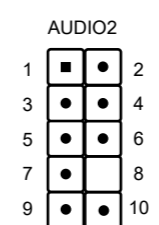
J1 Clear CMOS & power button & +5V  
清除 CMOS & 電源按鈕 & +5V  
Clear CMOS & Power Button & +5V  
Reset CMOS & Bouton d'alimentation & +5V  
Clear CMOS & Botón de encendido & +5V  
CMOSクリア & 電源スイッチ & +5V  
Сброс CMOS, внешняя кнопка питания, +5 В  
清除 CMOS & 电源按钮 & +5V

1=VCC\_AUX (Power source 5.0V/0.5A)  
(Enable in S0 mode only)  
2=Power SW  
3=RTC Reset  
4=GND



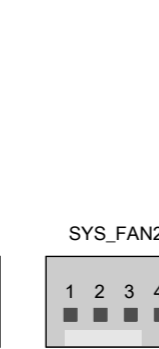
J2 Front audio header  
前面板音效插座  
Audio-Anschluss für Vorderseite  
Connecteur audio pour façade  
Conector de audio del panel frontal  
前面オーディオヘッド  
Передний аудио разъем  
前面板音效插座

1=Microphone input L  
2=Audio GND  
3=Microphone input R  
4=Front panel daughter board detection (Low active)  
5=Headphone out R  
6=Microphone audio jack detect  
7=Front panel audio jack sense  
8=NULL  
9=Headphone out L  
10=Headphone audio jack detect



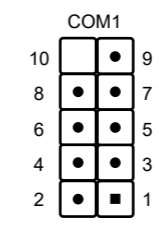
J3 Fan connector  
風扇連接埠  
Lüfteranschluss  
Connecteur ventilateur  
Conector del ventilador  
FAN コネクタ  
Разъем вентилятора  
风扇插座

1=GND  
2=+12V  
3=FAN IO  
4=FAN PWM



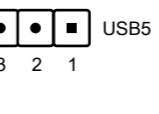
J4 COM header  
COM 插座  
COM-Anschluss  
Connecteur COM  
Base de conexiones COM  
COM コネクタ  
Разъем COM  
COM 插座

1=DCD  
2=RXD  
3=TXD  
4=DTR  
5=GND  
6=DSR  
7=RTS  
8=CTS  
9=-XR11  
10=NULL

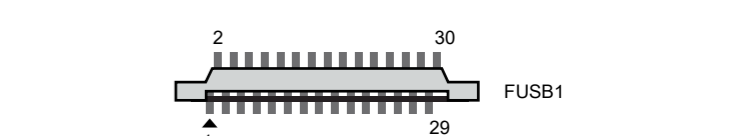


J5 USB 2.0 cable connector  
USB 2.0 排線插座  
Anschluss für USB 2.0-Kabel  
Connecteur câble USB 2.0  
Conexión para cable USB 2.0  
USB 2.0ケーブルコネクタ  
Разъем USB 2.0-кабеля  
USB 2.0扁平电缆插座

1=VBUS (USB power 5.0V/0.5A)  
2=Data- (USB 2.0 Data pin)  
3=Data+ (USB 2.0 Data pin)  
4=GND (Power Ground)  
5=GND (Power Ground)



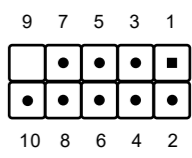
J6 Front USB 3.0 header  
前置 USB 3.0 插座  
USB-3.0-Anschluss (für vorne)  
Port USB 3.0 (façade)  
Conexión delantera USB 3.0  
フロントUSB 3.0 用ピンヘッド  
Разъем USB 3.0 порта (передняя панель)  
前置 USB 3.0 插座



1=3VSB (Power source 3.3V)  
2=5V\_DAU1 (Power Source 5.0V)  
3=5V\_DAU2 (Power Source 5.0V)  
4=5V\_DAU3 (Power Source 5.0V)  
5=USB Power ON (High active)  
6=GND  
7=USB3.2 Gen1 port 1 RX\_N  
8=USB3.2 Gen1 port 1 RX\_P  
9=GND  
10=USB3.2 Gen1 port 1 TX\_N  
11=USB3.2 Gen1 port 1 TX\_P  
12=GND  
13=USB2.0 Port 1 Data N  
14=USB2.0 Port 1 Data P  
15=GND  
16=GND  
17=USB2.0 Port 2 Data P  
18=USB2.0 Port 2 Data N  
19=GND  
20=USB3.2 Gen1 port 2 TX\_P  
21=USB3.2 Gen1 port 2 TX\_N  
22=GND  
23=USB3.2 Gen1 port 2 RX\_P  
24=USB3.2 Gen1 port 2 RX\_N  
25=GND  
26=USB Power ON (High active)  
27=5V\_DAU4 (Power Source 5.0V)  
28=5V\_DAU5 (Power Source 5.0V)  
29=5V\_DAU6 (Power Source 5.0V)  
30=3VSB (Power source 3.3V)

J7 USB 2.0 cable connector  
USB 2.0 排線插座  
Anschluss für USB 2.0-Kabel  
Connecteur câble USB 2.0  
Conexión para cable USB 2.0  
USB 2.0ケーブルコネクタ  
Разъем USB 2.0-кабеля  
USB 2.0扁平电缆插座

1=5V\_USB  
2=5V\_USB  
3=USB\_A\_N  
4=USB\_B\_N  
5=USB\_A\_P  
6=USB\_B\_P  
7=GND  
8=GND  
9=NULL  
10=GND



J8 Connector for front buttons/LEDs  
電源按鈕/LED插座  
Anschluss für vordere Buttons/LEDs  
Connexion pour les boutons en façade  
Conexión para pulsadores frontales/LEDs  
フロントボタンLED用コネクタ  
Разъем для кнопок / LED-индикаторов передней панели  
电源按钮/LED插座

1=HDD LED P  
2=Power LED P  
3=HDD LED N  
4=Power LED N  
5=System reset (Low active)  
6=Power switch (Low active)  
7=GND  
8=GND  
9=TEST(VBOOT\_SW)  
10=NULL

