Shuttle SH610R4 Series Cube-size Barebone PC User Guide

Contents

Shuttle®

Shuttle SH610R4 Series Cube-size Barebone PC

Product Information

The SH610R4 Series is a computer chassis designed for high-performance computing. It features various ports and slots for easy connectivity and expandability. The product is available in different specifications and colors.

Product Overview

- 5.25 Bay
- Hard disk drive LED
- Power button / Power LED
- USB 3.2 Gen 1 ports
- Microphone jack
- Headphones
- AC power socket
- Serial port (optional)
- VGA port
- DisplayPort
- Perforation for optional WLAN
- LAN port
- HDMI port
- Clear CMOS & Power Button & +5V
- USB 2.0 ports
- Line-out port
- Line-in port
- PCIe x16 slot
- PCIe x1 slot

Note: The product’s color and specifications may vary from the actually shipping product.

Product Usage Instructions

A. Begin Installation

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

1. Unscrew the 3 thumbscrews of the chassis cover.
2. Slide the cover backwards and upwards to remove it.
3. Unfasten the rack mount screws and remove the rack.

B. Memory Module Installation

Guidelines for Memory Configuration:

- Make sure that the motherboard supports the memory.
- It is recommended to use memory of the same capacity, brand, speed, and chips.
- Memory modules have a foolproof design and can be installed in only one direction.
- If unable to insert the module, reverse the direction.

Installing memory modules:

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

Note: DDR4 and DDR3/DDR2 DIMMs are not compatible. Install DDR4 DIMMs on this motherboard only.

C. 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 it with a screw.

D. Installation of Drives

1. Loosen the purse lock and separate the Serial ATA and power cables.
2. Place the HDD or SSD and the optical drive in the rack and secure them with screws from the sides.
3. Connect the Serial ATA cable to the motherboard for the HDD.
4. Connect the Serial ATA and power cables to the optical drive.
5. Connect the Serial ATA and power cables to the HDD.

Make sure the latches are closed and all memory modules are firmly installed before proceeding.

For more detailed information and support, please visit the **product's official website**.

More information on this product can be found at: **https://bit.ly/SH610R4**.

Product Overview

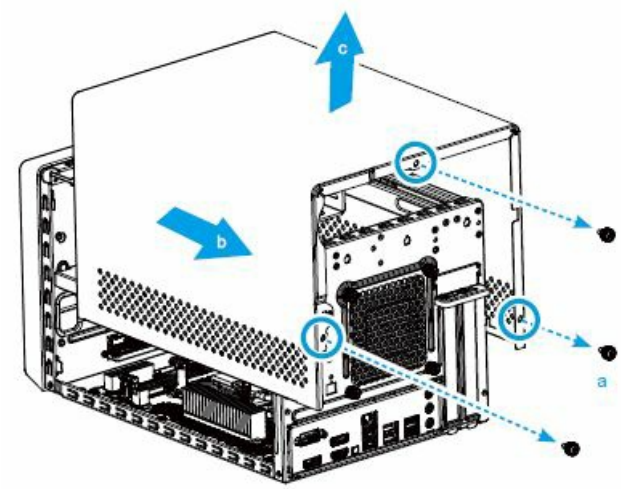
1. 5.25” Bay
2. Hard disk drive LED
3. Power button / Power LED
4. USB 3.2 Gen 1 ports
5. Microphone jack
6. Headphones
7. AC power socket
8. Serial port (optional)
9. VGA port
10. DisplayPort
11. Perforation for optional WLAN
12. LAN port
13. HDMI port
14. Clear CMOS & Power Button & +5V
15. USB 2.0 ports
16. Line-out port
17. Line-in port
18. PCIe x16 slot
19. PCIe x1 slot

Hardware Installation

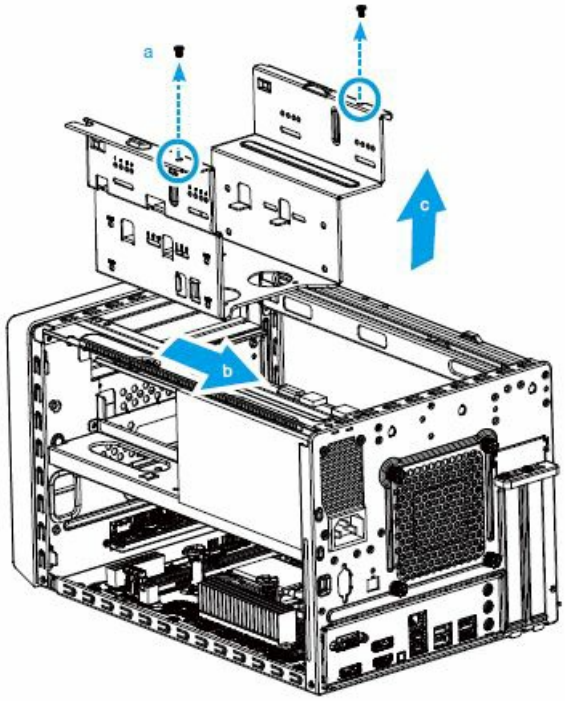
Begin Installation

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 backward and upwards.

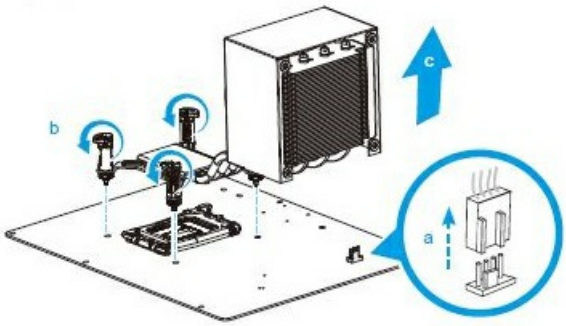


3. Unfasten the rack mount screws and remove the rack.



CPU and ICE Module Installation

1. Unfasten the ICE fan thumbscrews on the back of the chassis.
2. Unfasten the four ICE module attachment push-pins and unplug the fan connector.

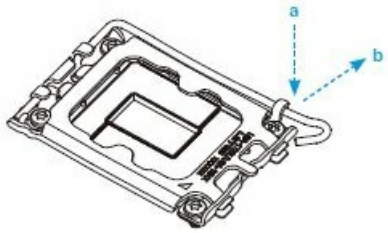


3. Remove the ICE module from the chassis and put it aside.

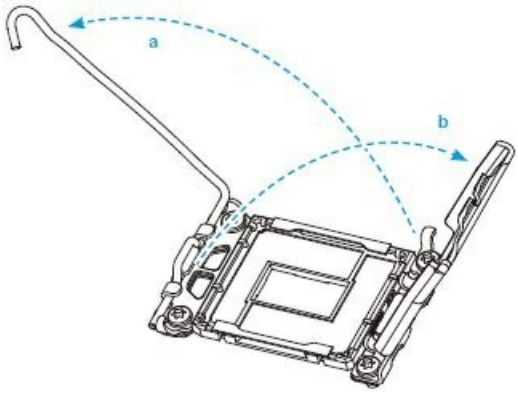
   This CPU socket is fragile and can easily be damaged. Always use extreme care when installing a CPU and limit the number of times you remove or change the CPU. Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage of the CPU.

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

4. Unlock and raise the socket lever.

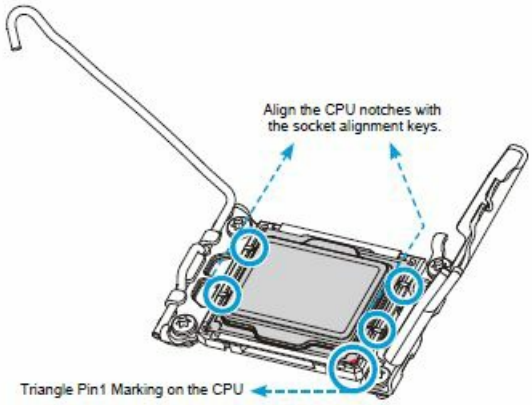


5. Lift the metal load plate off the CPU socket.



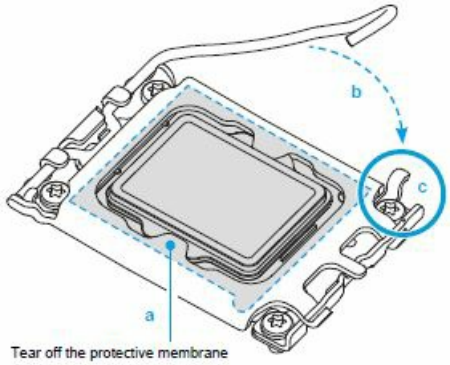
DO NOT touch the socket contacts. To protect the CPU socket, always use the protective socket cover when the CPU is not installed.

6. 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.

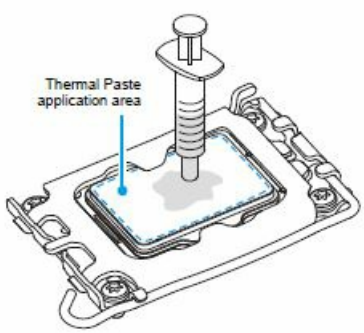


- Please be aware of the CPU orientation, DO NOT force the CPU into the socket to avoid the bending of pins on the socket and damage to the CPU!

7. Tear off the protective membrane from the metal load plate. Close the metal load plate, lower the CPU socket lever, and lock it in place.

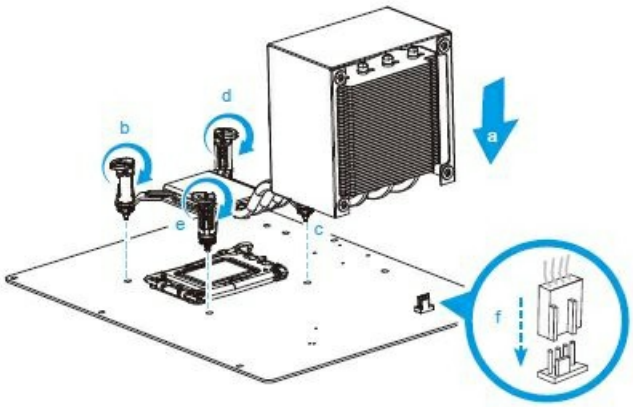


8. Spread the thermal paste evenly on the CPU surface.

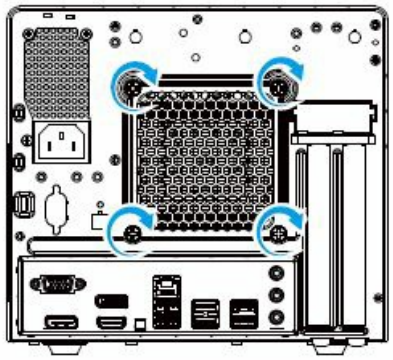


Please do not apply an excess amount of thermal paste.

9. Screw the ICE module to the motherboard. Note to press down on the opposite diagonal corner while tightening each push-pin.
10. Connect the fan.



11. Tighten the Smart Fan to the chassis with the four thumbscrews.



Memory Module Installation

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

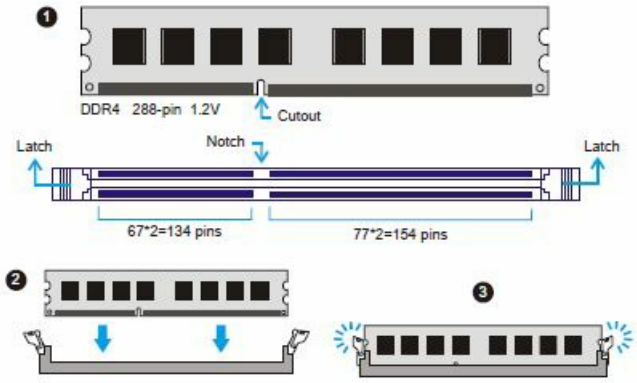
Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips is used. (Go to Shuttle's website for the latest memory support list.) Memory modules have a foolproof design. A memory module can be installed in only one direction. If you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

Installing memory modules

- DDR4 and DDR3/DDR2 DIMMs are not compatible to one another or other DDR DIMMs.
- Be sure to install DDR4 DIMMs on this motherboard only. Follow the steps below to correctly install your memory modules in the memory sockets.

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.

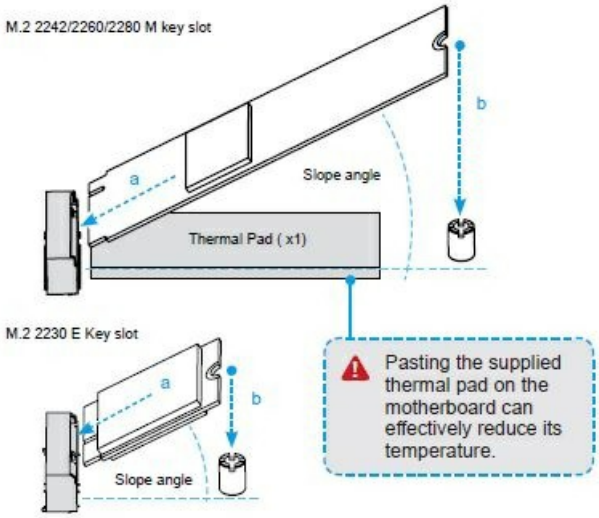
   A DDR4 memory module has a cutout, so it only fits in one direction.



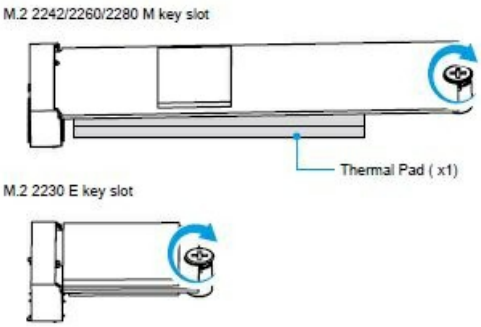
3. Check if the latches are closed and if all memory modules are firmly installed.
4. Repeat the above steps to install an additional memory module, if required.

M.2 Device Installation

1. Locate the M.2 key slots on the motherboard.

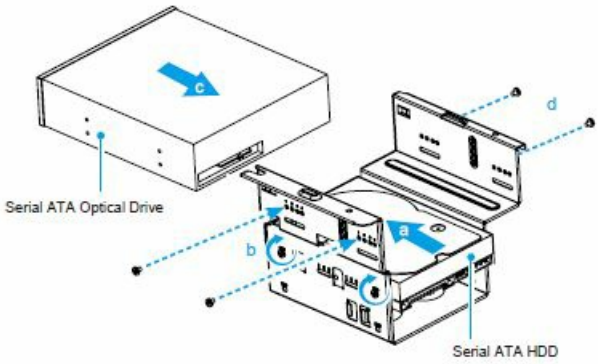


2. Install the M.2 device into the M.2 slot and secure with a screw.

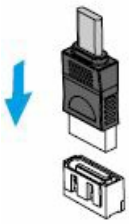


Installation of Drives

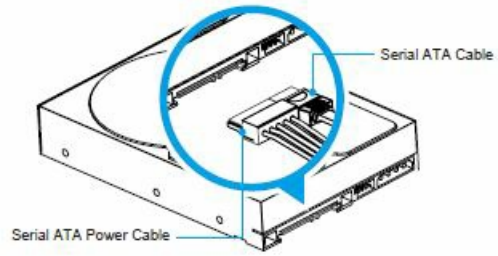
1. Loosen the purse lock and separate the Serial ATA and power cables.
2. Please place the HDD or SSD and the optical drive in the rack and secure with screws from the sides.



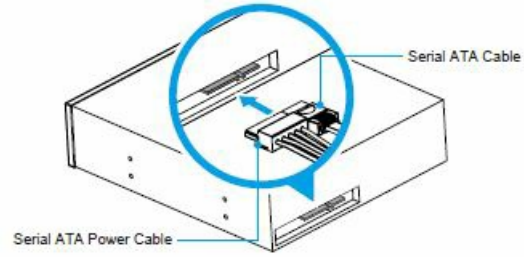
3. Connect the Serial ATA cable to the motherboard.



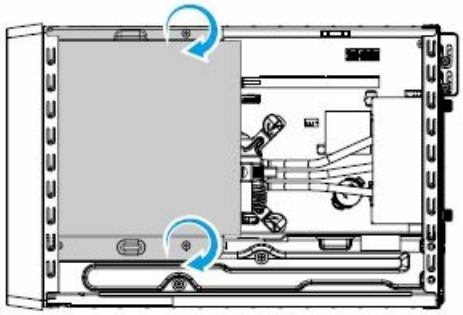
4. Connect the Serial ATA and power cables to the HDD.



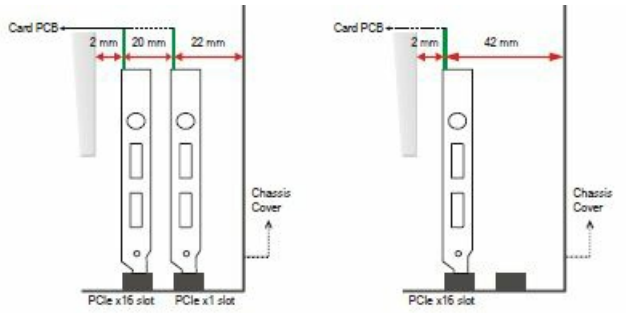
5. Connect the Serial ATA and power cables to the optical drive.



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

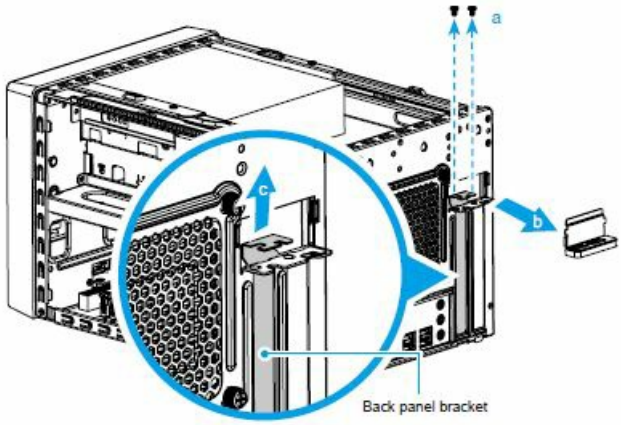


7. Install the PCIe x1 / PCIe x16 card into the PCIe x1 / PCIe x16 slots.
8. Secure the bracket.



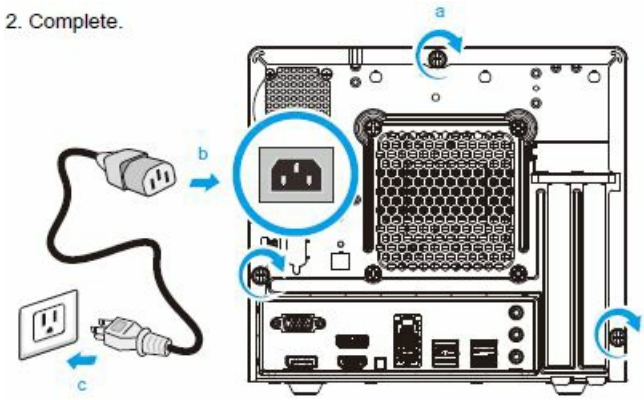
Installation of Expansion Cards

1. Unfasten the expansion slot bracket screws. Remove the back panel bracket and put it aside.
    - The maximum size acceptable for display cards is 273mm (L) x 98mm (H) x 38mm (D).



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.

Safety Information

Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries according to the manufacturer’s instructions.

Laser compliance statement:

- The optical disc drive in this PC is a laser product.

- The drive’s classification label is located on the drive.

CLASS 1 LASER PRODUCT

CAUTION:
INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

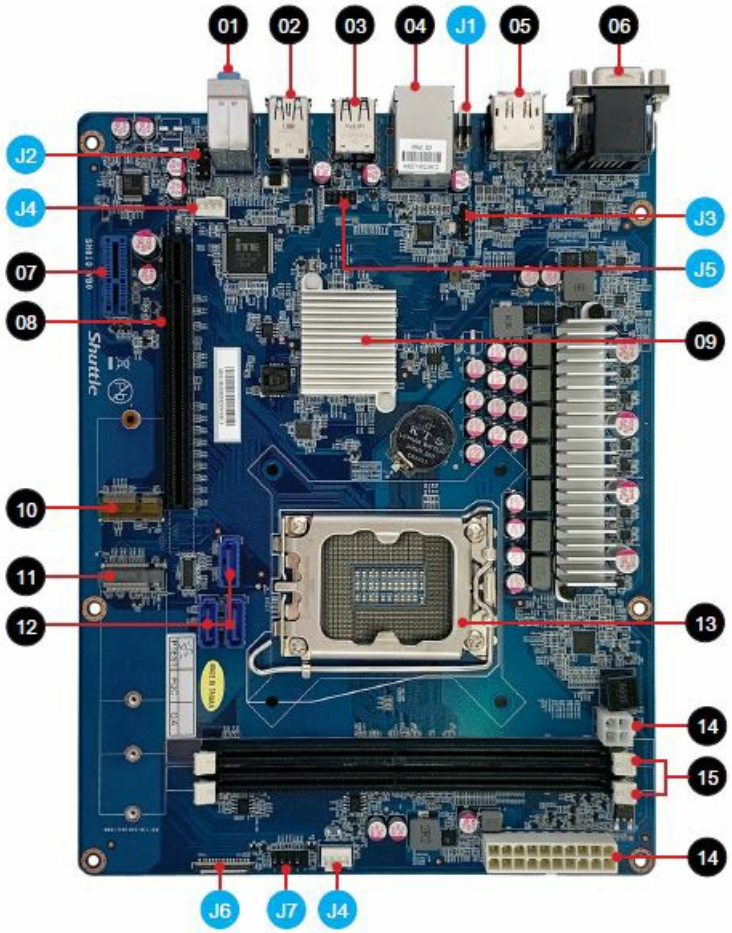
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This device meets the requirements for the CE conformity in accordance to the currently valid EU directives.

All bundled parts, power cord included, shall not be used without this product.

Motherboard Illustration

Mainboard-Abbildung



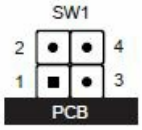
1. Line-in port
2. USB 3.2 Gen 1 ports
3. USB 2.0 ports
4. LAN/USB 2.0 ports

5. DisplayPort / HDMI 2.0 port
6. VGA port / DisplayPort
7. PCIe x1 slot
8. PCIe x16 slot
9. Intel® H610 chipset
10. M.2 2230 E key slot
11. M.2 2242/2260/2280 M key slot
12. SATA 3.0 6Gb/s connector
13. Processor socket LGA 1700
14. ATX power connector
15. 2x 288-pin DDR4 DIMM slot

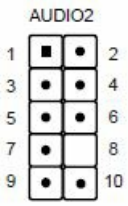
Jumper Settings

Jumper

- **J1** Clear CMOS & power button & +5V
    1. =RTC Reset
    2. = VCC_AUX
        - (Power source 5.0V/0.5A)
        - (Enable in S0 mode only)
    3. =GND
    4. =Power SW

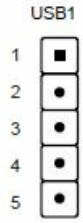


- **J2** Front audio header
    1. =Microphone input L
    2. =Audio GND
    3. =Microphone input R
    4. =Front panel daughter board detection (Low active)
    5. =Headphone out R
    6. =Microphone audio jack detect
    7. =Front panel audio jack sense
    8. =NULL
    9. =Headphone out L
    10. =Headphone audio jack detect

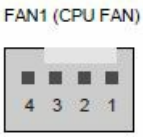


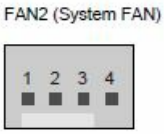
- **J3** USB 2.0 cable connector
    1. =VBUS (USB power 5.0V/0.5A)

2. =Data- (USB 2.0 Data pin)
3. =Data+ (USB 2.0 Data pin)
4. =GND (Power Ground)
5. =GND (Power Ground)

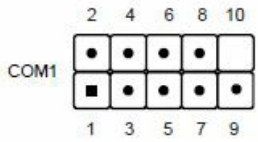


- **J4** Fan connector
  1. =GND
  2. =+12V
  3. =FAN IO
  4. =FAN PWM



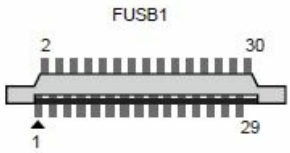


- **J5** COM header
  1. =DCD
  2. =RXD
  3. =TXD
  4. =DTR
  5. =GND
  6. =DSR
  7. =RTS
  8. =CTS
  9. =-XRI1
  10. =NULL

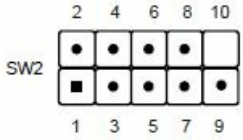


- **J6** Front USB 3.0 header
  1. =3VSB (Power source 3.3V)
  2. =5V_DUAL (Power Source 5.0V)
  3. =5V_DUAL (Power Source 5.0V)
  4. =5V_DUAL (Power Source 5.0V)
  5. =USB Power ON (High active)
  6. =GND
  7. =USB3.2 Gen1 port 1 RX_N

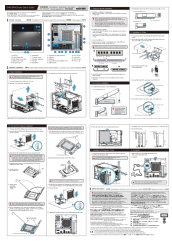
8. =USB3.2 Gen1 port 1 RX_P
9. =GND
10. =USB3.2 Gen1 port 1 TX_N
11. =USB3.2 Gen1 port 1 TX_P
12. =GND
13. =USB2.0 Port 1 Data N
14. =USB2.0 Port 1 Data P
15. =GND
16. =GND
17. =USB2.0 Port 2 Data P
18. =USB2.0 Port 2 Data N
19. =GND
20. =USB3.2 Gen1 port 2 TX_P
21. =USB3.2 Gen1 port 2 TX_N
22. =GND
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_DUAL (Power Source 5.0V)
28. =5V_DUAL (Power Source 5.0V)
29. =5V_DUAL (Power Source 5.0V)
30. =3VSB (Power source 3.3V)



- **J7** Connector for front buttons/LEDs
  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. =NA.
  10. =NULL



Documents / Resources

	**Shuttle SH610R4 Series Cube-size Barebone PC** [pdf] User Guide SH610R4, SH610R4 Series Cube-size Barebone PC, Cube-size Barebone PC, Barebone PC, PC

References

- **Shuttle Global - SH610R4**