

# ASRock H110 Pro BTC+ mining system Installation Guide

## Configuration:

1. ASRock H110 Pro BTC+ motherboard
2. 13 x PCIe riser kit
3. 13 x AMD / 8 x AMD + 5 x NVIDIA graphic cards.
4. Dedicated frame for 13 graphics cards and additional components
5. SSD boot drive
6. Minimum 4GB RAM (8GB is recommended)
7. Adapter for dual power supply (Optional)
8. Total power supply at least 2400W (Depends on system configuration) \*

\*We suggest users to visit the official website of the graphics card vendor to check the graphics card TDP. Please refer to the following example.

Nvidia GTX1060: It requires 120W power for each card.

Link: <https://www.nvidia.com/en-us/geforce/products/10series/geforce-gtx-1060/>

Thermal and Power Specs:		
Maximum GPU Temperature (in C)	94	94
Graphics Card Power (W)	120 W	120 W
Recommended System Power (W)	400 W	400 W
Supplementary Power Connectors	6-Pin	6-Pin

AMD RX470: It requires 120W power for each card.

Link: <http://www.amd.com/en-gb/products/graphics/radeon-rx-series/radeon-rx-470>

MEMORY INTERFACE	256 bit
MEMORY TYPE	GDDR5
TYPICAL BOARD POWER	120W
RADEON FREESYNC™ TECHNOLOGY	Yes
DIRECTX® 12 SUPPORT	Yes

If the system uses eight RX470 and five GTX1060, the total sum including other components is 1810W. Accounting for power conversion efficiency, the recommended power supply for this example is at least 2400W.

H110 Pro BTC+ with CPU + memory + SSD	RX470 x Qty	GTX1060 x Qty	Total
250W	120W x 8	120W x 5	1810W

Please refer to the following link for an installation video on our Youtube channel:

[https://www.youtube.com/watch?time\\_continue=3&v=c2EDN7xyjZ4](https://www.youtube.com/watch?time_continue=3&v=c2EDN7xyjZ4)

## Pre-installation:

1. Choose reliable PCIe riser kits with a USB connection and additional power input.

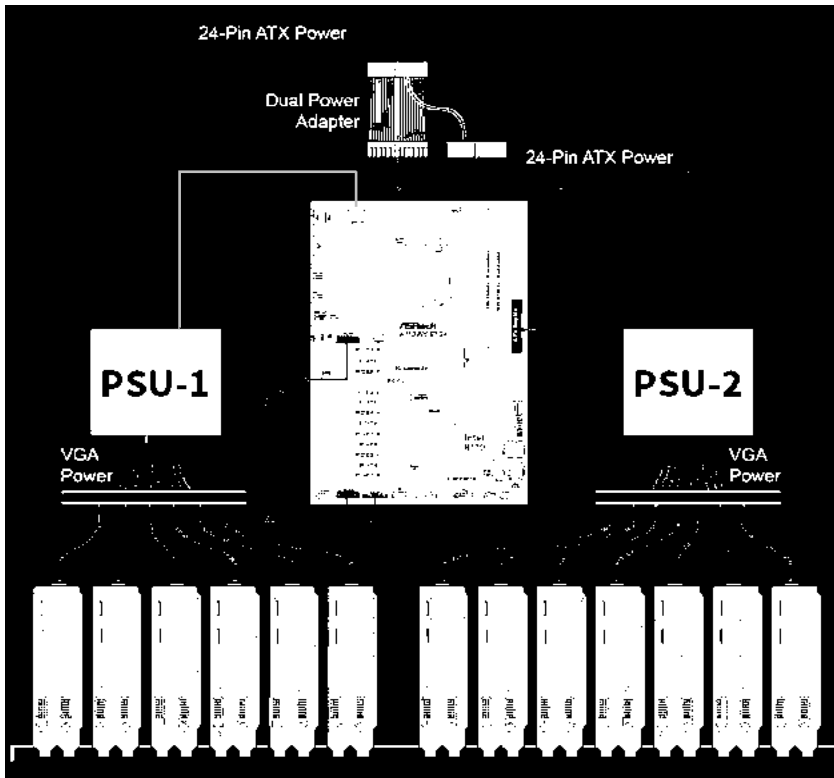


2. Always connect a power supply to the power connector of PCIe riser card.



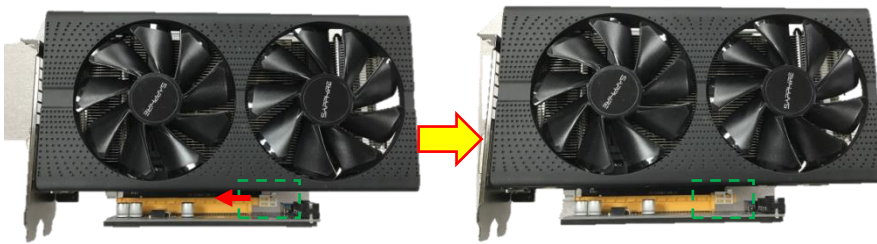
3. If a secondary power supply is used, please use a dual power supply adapter in order to start up both power supplies simultaneously.
  - a. Depending on the system configuration and type and number of graphics cards, we recommend to have at least 2400W for 13 GPU mining.
  - b. We highly recommend NOT to turn on the power supply by shorting the specific wire on the 24-pin ATX cable.

Please refer to the below picture for power connections (not including the required connections to the PCIe riser cards).



## The steps to install the system:

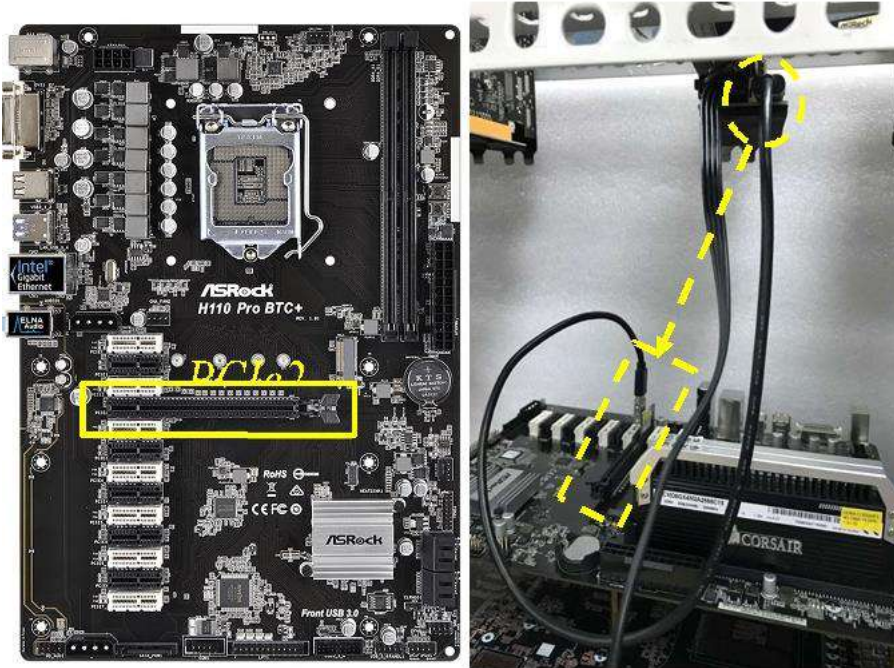
- Step 1. Please install the Skylake or Kaby Lake CPU and DDR4 memory on the H110 Pro BTC+.
- Step 2. Plug the graphics card into the PCIe riser card and make sure the latch is locked properly.



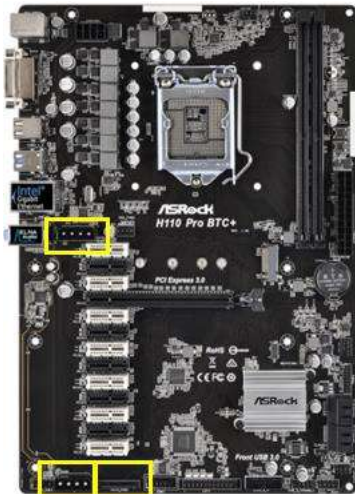
- Step 3. Connect the power supply to the graphics card AND the PCIe riser card directly.



Step 4. The first mining kit (PCIe riser + graphics card + power connections) should be installed on slot PCIE2. That is the x16 slot.



Step 5. Connect the main power supply to the PCIE PWR and SATA PWR headers, and to the standard 24-pin ATX connector and 4/8-pin 12V connector.



Step 6. Turn on the AC power and install the OS (operating system).

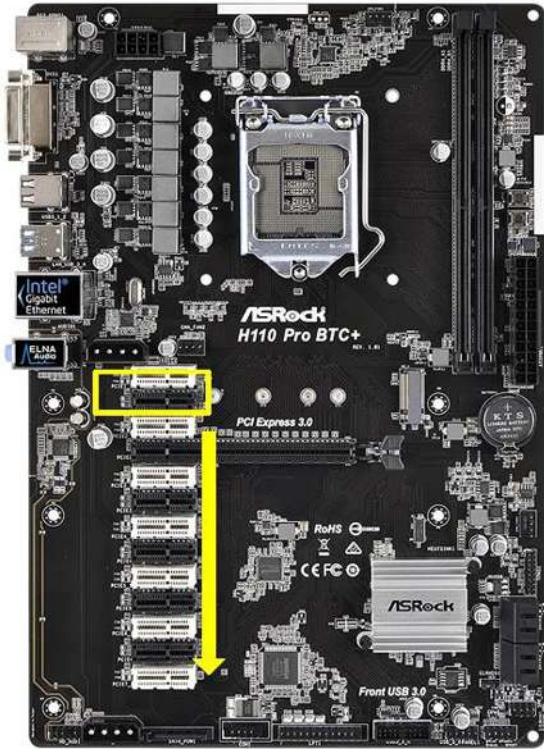
Step 7. After finishing the OS installation, please install the graphics driver.

Step 8. Reboot the system to enter the OS and make sure the graphics driver is installed correctly.

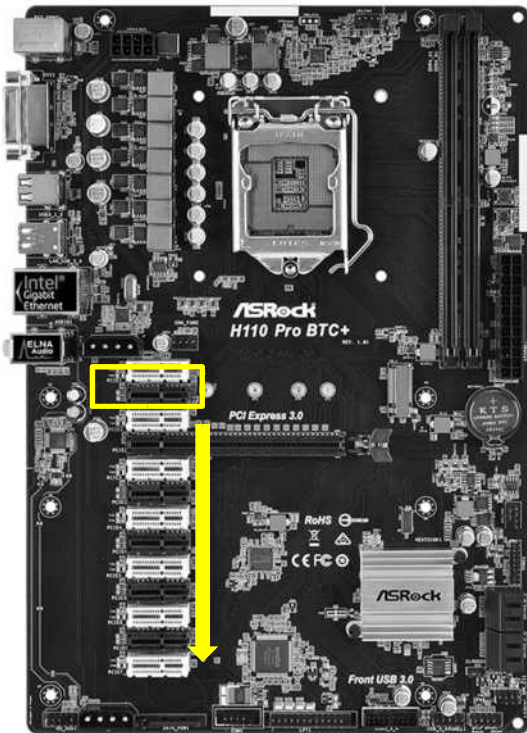
Step 9. Go to device manager to check if the graphics card is detected properly. Shut down the system and then turn off the AC power.

Step 10. Install the second mining kit on the top PCIe x1 slot (which is closest to CPU) and repeat steps 3, 4, 8 and 9.





Step 11. Install the other mining kits on the other PCIe x1 slots, from top to bottom. Install one kit at a time and repeat steps 3, 4, 8 and 9 every time.



Step 12. After installing the 13 mining kits, graphics driver(s) and software, the system is ready for mining.

**Note:**

1. Because of high temperatures from the graphics cards please set all graphics card fans to full speed.
2. If you want to use integrated graphics as main output, please set:  
BIOS → Advanced → Chipset Configuration → IGPU Multi-Monitor → Enabled  
BIOS → Advanced → Chipset Configuration → Primary Graphics Adapter → Onboard  
Then install the OS using integrated graphics first.
3. Please reserve sufficient space between all graphics cards for good heat dissipation.