



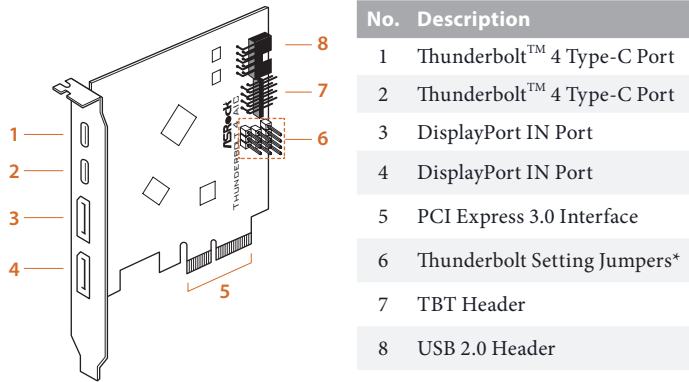
P/N: 15G062297000AK V1.0

# ASRock Thunderbolt 4 AIC

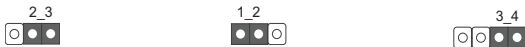
## Package Contents

- 1 x Quick Installation Guide
- 1 x Support CD
- 1 x TBT Header Cable
- 2 x DisplayPort Cable
- 1 x USB 2.0 Cable

## Card Layout



\*Thunderbolt Setting:



Force_PWR1	PD_RESET_1	RTD3
1-2 Force Power on	1-2 Force Reset (Default)	3-4 No RTD3 (Default)
2-3 Floating (Default)	2-3 Floating	

## Specifications

### Platform

- Dimensions: 3.3-in x 4.1-in

### Chipset

- Intel® JHL8540 Thunderbolt™ 4 Controller

### External Connectors

- 2 x Thunderbolt™ 4 Type-C Ports (with up to 40Gbps bandwidth)
- \* Supports daisy-chaining of up to five Thunderbolt™ devices
- \* Supports USB PD 2.0 up to 9V@3A (27W) / 5V@3A (15W) charging
- \* USB keyboard/mouse wake up is not supported.
- 1 x TBT Header
- 2 x DisplayPort IN Ports
- 1 x USB 2.0 Header

### Interface

- PCI Express 3.0 x4 interface

### Graphics

- Supports Thunderbolt™ 4 interface with max. resolution of 5K (5120 x 2880) @ 60Hz for one display over a single cable connection
- Supports Thunderbolt™ 4 interface with max. resolution of 4K x 2K (4096x2160) @ 60Hz for dual displays over a single cable connection
- Supports up to two streams (eight lanes) of DisplayPort video bandwidth ; supports daisy-chaining of multiple DisplayPort monitors

### Data Rate

- Supports 40Gbps bi-directional bandwidth per channel with Thunderbolt™ 4 port

### OS

- Microsoft® Windows® 10 64-bit

\*This add-in card is based on Intel's reference design. However, the BIOS and hardware design of your motherboard may affect the function of Thunderbolt™ 4 Port on this card. **Please note that only Intel 500 series motherboards are supported with Thunderbolt 4 AIC.** We recommend using the supported motherboard models for Thunderbolt 4 AIC. Currently, eGPU thunderbolt box doesn't support AMD GPU. Please check graphic card vendors for more information.

\*For the supported list, please visit [www.asrock.com](http://www.asrock.com).

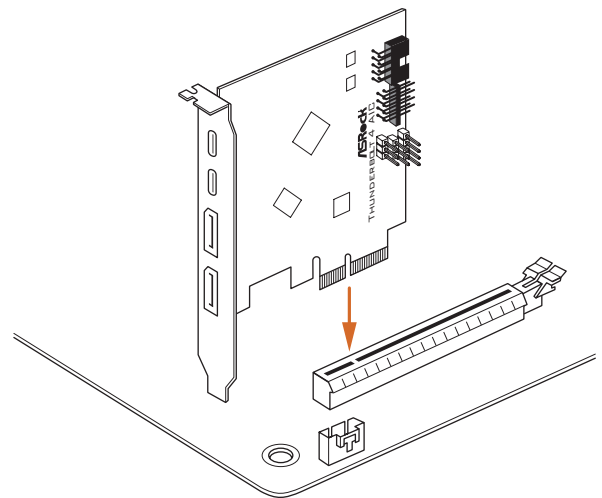


1. Intel® Thunderbolt™ 4 is backwards compatible with all Thunderbolt™ cables and devices.
2. The illustrations in this guide are for reference only. The motherboard layout may vary with models.

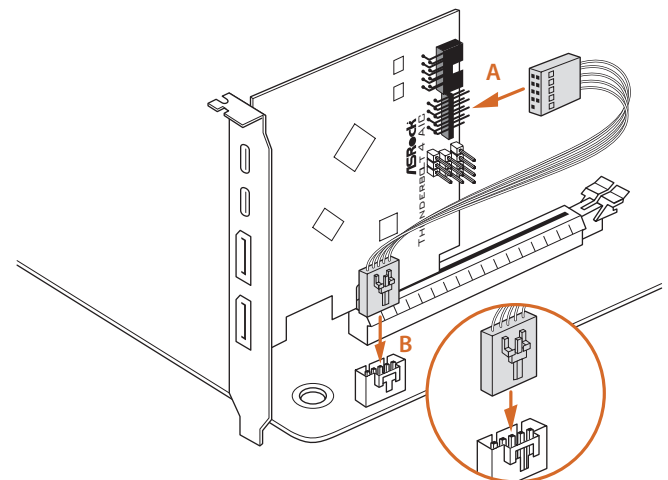
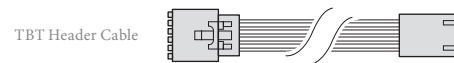
## 1 Installing the Thunderbolt 4 AIC

1. Power off the PC and unplug the power cord. Detach all other cables from the PC.
2. Remove the PC cover.
3. Align and insert the card into a PCI Express 3.0 slot on the motherboard. Press firmly until the card is securely seated in place.

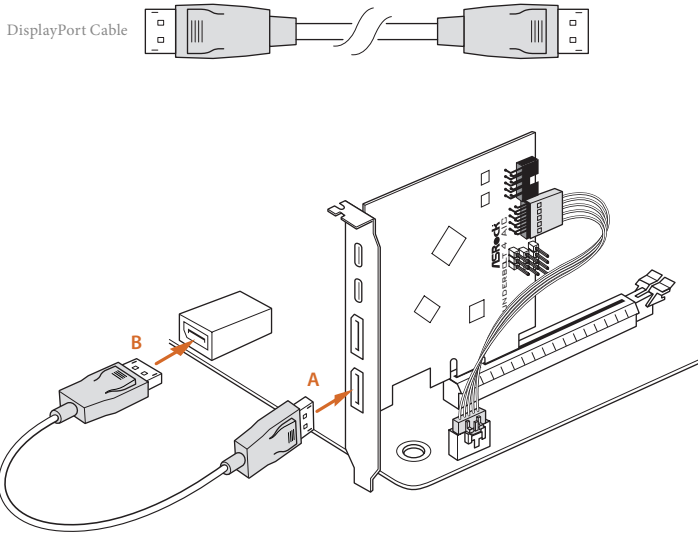
\*To determine the slot in which to install the Thunderbolt 4 AIC, refer to the user manual that comes with your motherboard.



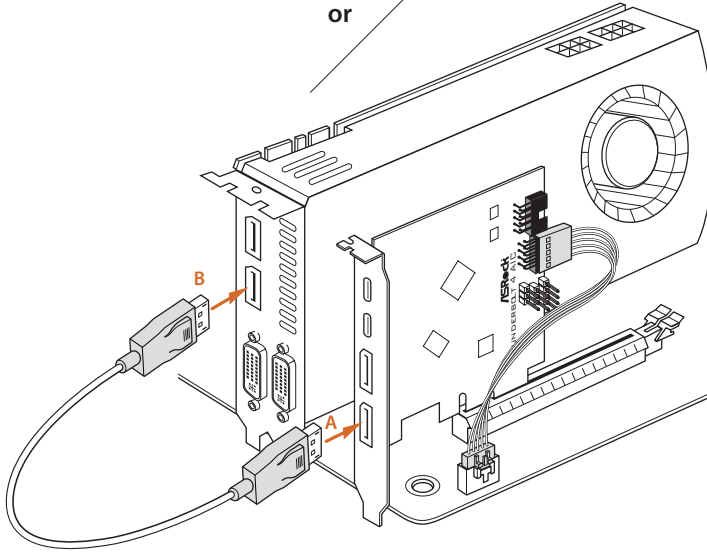
4. Connect one end of the TBT Header Cable to the **TBT Header (A)** on the Thunderbolt 4 AIC. Then connect the other end of the cable to the **Thunderbolt AIC Connector (TBT1) (B)** on the motherboard.



- Connect one end of the DisplayPort Cable to the **DisplayPort IN Port (DP\_1) (A)** on the Thunderbolt 4 AIC. Then connect the other end of the cable to the **DisplayPort Port (B)** on the motherboard's rear I/O panel or on the graphics card.

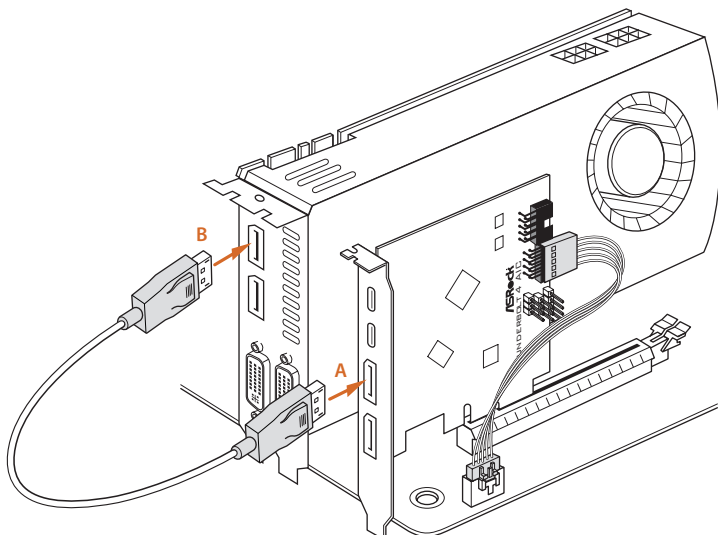


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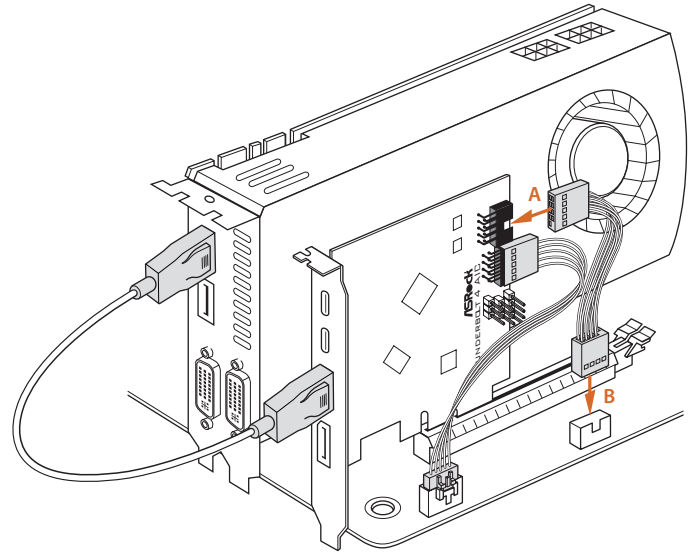
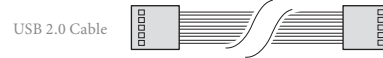


- Connect one end of the DisplayPort Cable to the **DisplayPort IN Port (DP\_2) (A)** on the Thunderbolt 4 AIC. Then connect the other end of the cable to the **DisplayPort Port (B)** on the graphics card.

\*If you use a Thunderbolt™ Type-C monitor, make sure that you install the DisplayPort Cables into both **DP\_1** and **DP\_2** on the Thunderbolt 4 AIC.



- Connect one end of the USB 2.0 Cable to the **USB 2.0 Header (A)** on the Thunderbolt 4 AIC. Then connect the other end of the cable to the **USB 2.0 Header (B)** on the motherboard.

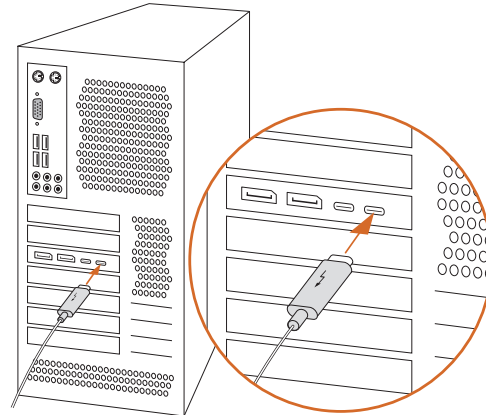
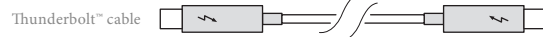


- Replace the PC cover.
- Reconnect the power cord and any other cables that were disconnected. Then power on the PC.

## 2 Connecting the Thunderbolt™ Cable

Connect the Thunderbolt™ cable from your Thunderbolt-enabled device to the **Thunderbolt™ 4 Port** on the Thunderbolt 4 AIC.

\* The Thunderbolt™ cable is not included in the package.



## 3 Enabling the Thunderbolt™ Function

After hardware installation is completed, enter the BIOS Setup, go to Advanced\ Intel Thunderbolt and then enable the Intel® Thunderbolt™ function.

## 4 Installing the Thunderbolt Software in Windows

Place the Support CD into your CD-ROM drive and follow the on-screen instructions to complete the installation.

**Recommended ASRock Motherboard Models:**

Motherboard Models	Supported PCIE slot	PCIE 3.0 mode	Max. bandwidth
Z590 OC Formula	PCIE5	x4 from PCH	40Gbps
Z590 Extreme WiFi 6E	PCIE3	x4 from PCH	40Gbps
Z590 Extreme	PCIE3	x4 from PCH	40Gbps
Z590 Steel Legend WiFi 6E	PCIE3	x4 from PCH	40Gbps
Z590 Steel Legend	PCIE3	x4 from PCH	40Gbps
Z590M Phantom Gaming 4	PCIE3	x4 from PCH	40Gbps
Z590 Phantom Gaming 4/ac	PCIE3	x4 from PCH	40Gbps
Z590 Phantom Gaming 4	PCIE3	x4 from PCH	40Gbps
Z590 PG Velocita	PCIE4	x4 from PCH	40Gbps
Z590M Pro4	PCIE4	x4 from PCH	40Gbps
Z590 Steel Legend	PCIE3	x4 from PCH	40Gbps
Z590 Pro4	PCIE4	x4 from PCH	40Gbps
H570M Pro4	PCIE3	x4 from PCH	40Gbps
H570 Steel Legend	PCIE3	x4 from PCH	40Gbps
H570 Phantom Gaming 4	PCIE3	x4 from PCH	40Gbps
B560M Pro4/ac	PCIE3	x4 from PCH	40Gbps
B560M Pro4	PCIE3	x4 from PCH	40Gbps

\*For the updated information, please visit [www.asrock.com](http://www.asrock.com).