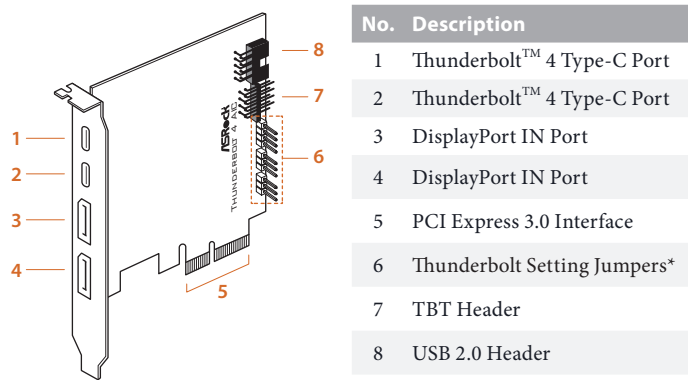# ASRock Thunderbolt 4 AIC R2.0

Package Contents

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

Card Layout

No.	Description
1	Thunderbolt™ 4 Type-C Port
2	Thunderbolt™ 4 Type-C Port
3	DisplayPort IN Port
4	DisplayPort IN Port
5	PCI Express 3.0 Interface
6	Thunderbolt Setting Jumpers*
7	TBT Header
8	USB 2.0 Header

*Thunderbolt Setting on **Intel** Platform:

Force_PWR1	PD_RESET_1	RTD3
2-3 Floating (Defaut)	2-3 Floating (Default)	None (Default)

*Thunderbolt Setting on **AMD** Platform:

Force_PWR1	PD_RESET_1	RTD3
2-3 Floating (Defaut)	None*	3-4 No RTD3*

*Be sure to move the jumper cap from PD_RESET_1 (pins 2-3) to RTD3 (pins 3-4).

For the limitation on the use of this add-in card on AMD platform, please visit https://www.asrock.com/mb/spec/product.asp?Model=Thunderbolt%204%20 AIC%20R2.0#Specification

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 3.0 up to 9V@3A (27W) / 5V@3A (15W) charging • 1 x TBT Header • 2 x DisplayPort IN Ports • 1 x USB 2.0 Header
Interface	• PCIe Gen3x4 interface
Graphics	• Supports DisplayPort 1.4 with max. resolution 7680 x 4321@60Hz* * Max resolution support will depend on your VGA source.

Data Rate	• Supports 40Gbps bi-directional bandwidth per channel with Thunderbolt™ 4 port
OS	• Microsoft® Windows® 10 64-bit / 11 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. We recommend using the supported motherboard models for Thunderbolt 4 AIC R2.0. Currently, eGPU thunderbolt box doesn't support AMD GPU. Please check graphic card vendors for more information.
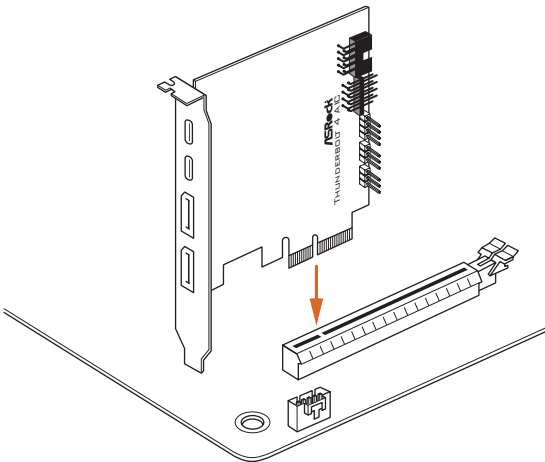
***For the latest list of compatible ASRock motherboard models, please visit www.asrock.com.**

☆ 1. *Intel® Thunderbolt™ 4 is backwards compatible with Thunderbolt™ 3 cables and devices. Please note that Thunderbolt™ and Thunderbolt™ 2 cables and devices are not supported.*
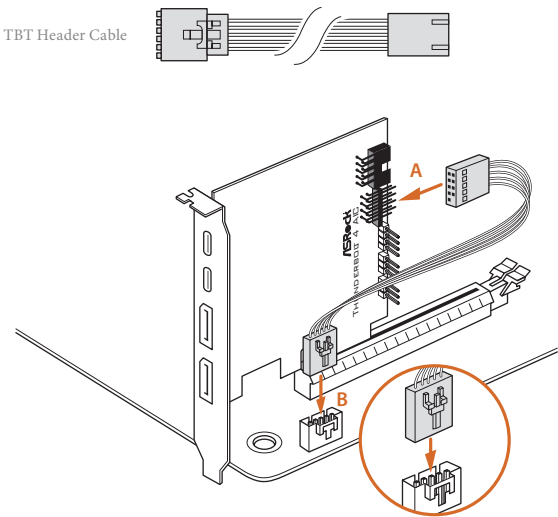2. *The illustrations in this guide are for reference only. The motherboard layout may vary with models.*
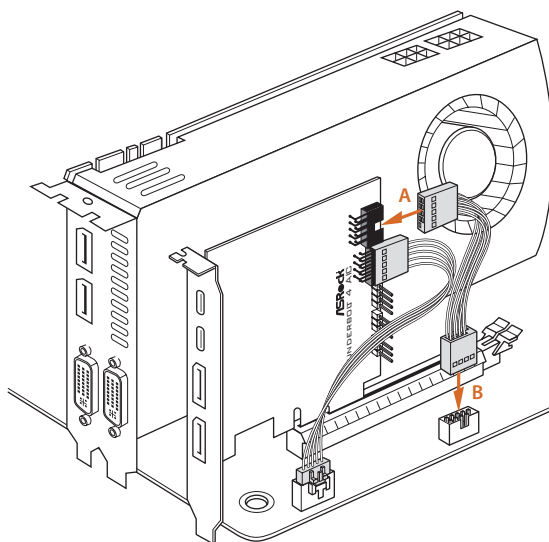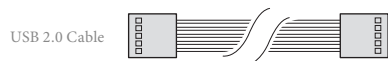
1 Installing the Thunderbolt 4 AIC R2.0

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 R2.0, refer to
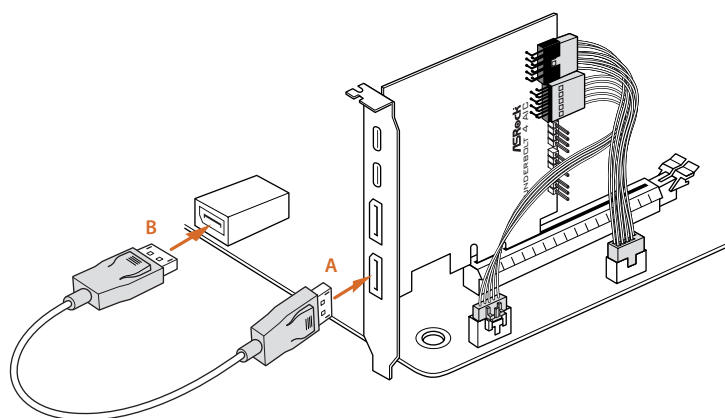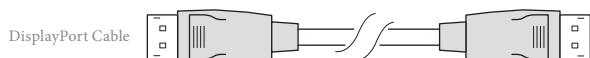   the user manual that comes with your motherboard.

4. Connect one end of the TBT Header Cable to the **TBT Header (A)** on the Thunderbolt 4 AIC R2.0. Then connect the other end of the cable to the **Thunderbolt AIC Connector (TBT1) (B)** on the motherboard.
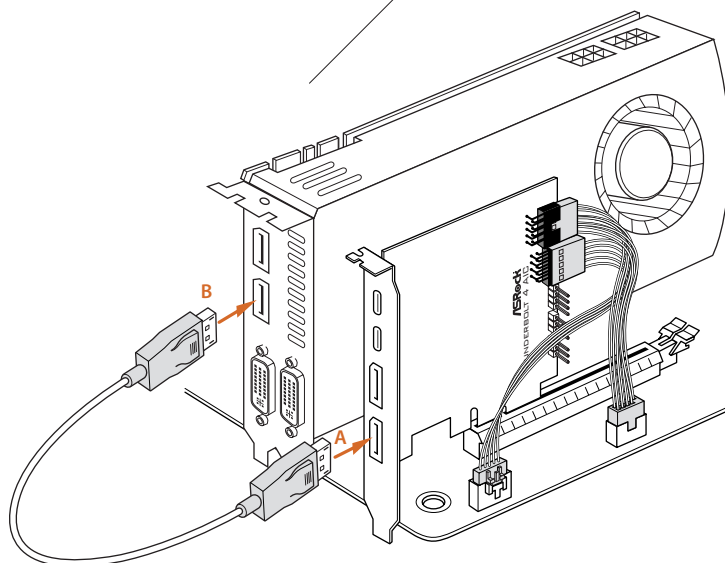

TBT Header Cable

5. Connect one end of the USB 2.0 Cable to the **USB 2.0 Header (A)** on the Thunderbolt 4 AIC R2.0. Then connect the other end of the cable to the **USB 2.0 Header (B)** on the motherboard.

USB 2.0 Cable

6. Connect one end of the DisplayPort Cable to the **DisplayPort IN Port (DP_1) (A)** on the Thunderbolt 4 AIC R2.0. 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.
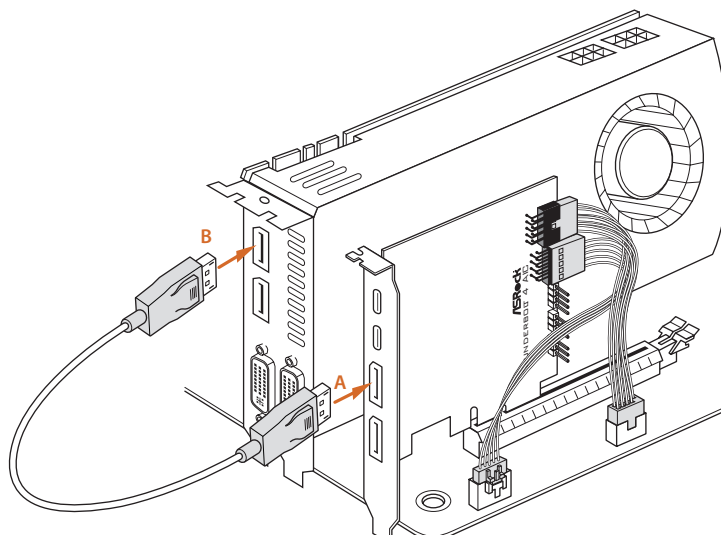

DisplayPort Cable

or

7. Connect one end of the DisplayPort Cable to the **DisplayPort IN Port (DP_2) (A)** on the Thunderbolt 4 AIC R2.0. 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 R2.0.
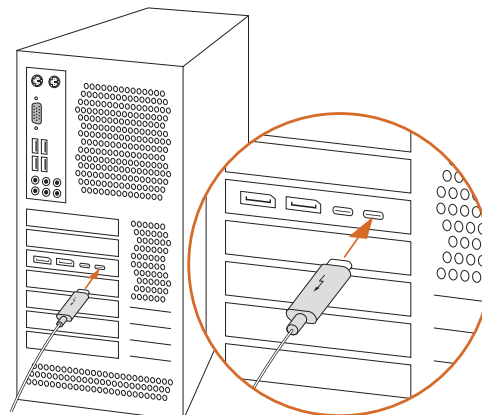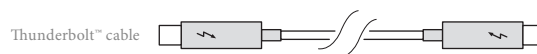

8. Replace the PC cover.
9. Reconnect the power cord and any other cables that were disconnected. Then power on the PC.

2 Connecting the Thunderbolt™ Cable

Connect the Thunderbolt™ cable from your Thunderbolt-enabled device to the **Thunderbolt™ 4 Port** on the Thunderbolt 4 AIC R2.0.

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

Thunderbolt™ cable

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.

Compatible ASRock Motherboard Models (Intel 600 series and 500 series):

Motherboard Models	Supported PCIE slot
Z690 PG Velocita	PCIE5
Z690 EXTREME	PCIE4
Z690 EXTREME WiFi 6E	PCIE4
Z690 Steel Legend/D5	PCIE5
Z690 Steel Legend WiFi 6E/D5	PCIE5
Z690 Steel Legend	PCIE5
Z690 Steel Legend WiFi 6E	PCIE5
Z690 PG Riptide	PCIE3
Z690 Pro RS	PCIE5
Z690 Phantom Gaming 4	PCIE3
H670 Steel Legend	PCIE5
H670 PG Riptide	PCIE5
Z690 Phantom Gaming 4/D5	PCIE3
Z690M PG Riptide/D5	PCIE3
Z690M Phantom Gaming4	PCIE3
H670M Pro RS	PCIE3
B660 Pro RS	PCIE3
B660M Pro RS	PCIE3
B660M Phantom Gaming4	PCIE5
Z590 Extreme WiFi 6E	PCIE3
Z590 Extreme	PCIE3
Z590 Steel Legend WiFi 6E	PCIE3
Z590 Steel Legend	PCIE3
Z590M Phantom Gaming 4	PCIE3
Z590 Phantom Gaming 4/ac	PCIE3
Z590 Phantom Gaming 4	PCIE3
Z590 PG Velocita	PCIE4
Z590M Pro4	PCIE4
Z590 Steel Legend	PCIE3
Z590 Pro4	PCIE4
H570M Pro4	PCIE3
H570 Steel Legend	PCIE3
H570 Phantom Gaming 4	PCIE3
B560M Pro4/ac	PCIE3
B560M Pro4	PCIE3

Compatible ASRock Motherboard Models (AMD 500 series):

Motherboard Models	Supported PCIE slot
B550 PG Riptide	PCIE3

*For the updated information, please visit www.asrock.com.

*For the limitation on the use of this add-in card on AMD platform, please visit https://www.asrock.com/mb/spec/product.asp?Model=Thunderbolt%204%20AIC%20R2.0#Specification