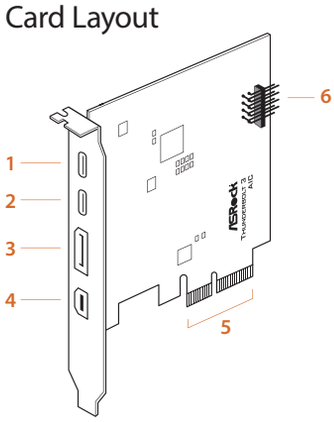
P/N: 15G062017000AK V1.0

ASRock Thunderbolt 3 AIC

Package Contents

- 1 x Quick Installation Guide
- 1 x Support CD
- 1 x TBT Header Cable
- 1 x DisplayPort Cable
- 1 x Mini DisplayPort to DisplayPort Adapter Cable

Card Layout



No.	Description
1	Thunderbolt™ 3 Type-C Port
2	Thunderbolt™ 3 Type-C Port
3	DisplayPort IN Port
4	Mini DisplayPort IN Port
5	PCI Express 3.0 Interface
6	TBT Header

Note

The design of 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™ 3 Port on this card. It is recommended to use the motherboard models listed below for Thunderbolt 3 AIC.

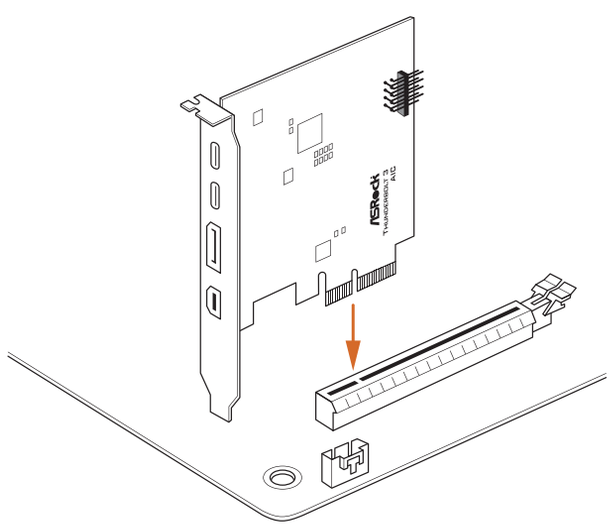
Specifications

Platform	• Dimensions: 3.3-in x 4.1-in
Chipset	• Intel® JHL6540 Thunderbolt™ 3 Controller
External Connectors	• 2 x Thunderbolt™ 3 Type-C Ports (with up to 40Gbps bandwidth) * Supports daisy-chaining of up to six Thunderbolt™ devices • 1 x DisplayPort IN Port • 1 x Mini DisplayPort IN Port • 1 x TBT Header
Interface	• PCI Express 3.0 x4 interface
Graphics	• Supports Thunderbolt™ 3 interface with max. resolution of 5K (5120 x 2880) @ 60Hz for one display over a single cable connection • Supports Thunderbolt™ 3 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™ 3 port
OS	• Microsoft® Windows® 10 32-bit / 10 64-bit / 8 32-bit / 8 64-bit

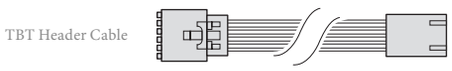
1. *Intel® Thunderbolt™ 3 is backwards compatible with all Thunderbolt™ cables and devices.*
2. *The illustrations in this guide are for reference only. The motherboard layout may vary with models.*

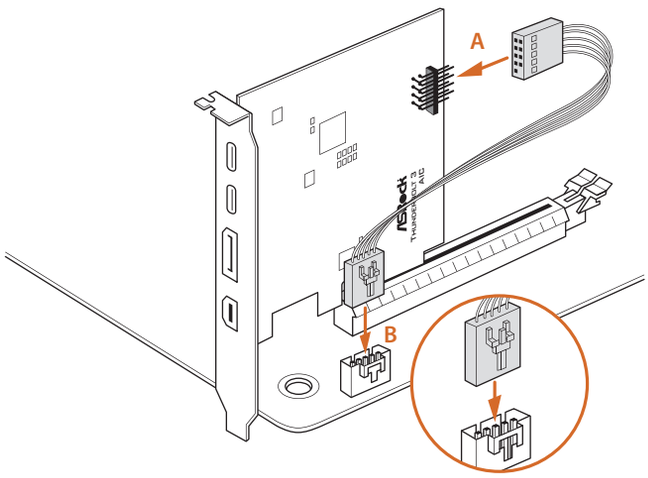
1 Installing the Thunderbolt 3 AIC

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 3 AIC, refer to the user manual that comes with your motherboard.

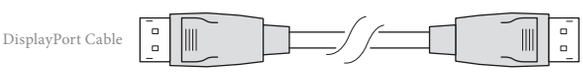


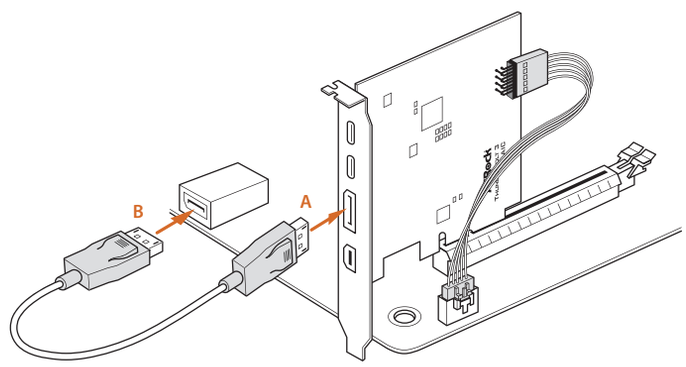
4. Connect one end of the TBT Header Cable to the **TBT Header (A)** on the Thunderbolt 3 AIC. Then connect the other end of the cable to the **Thunderbolt AIC Connector (TBT1) (B)** on the motherboard.





5. Connect one end of the DisplayPort Cable to the **DisplayPort IN Port (A)** on the Thunderbolt 3 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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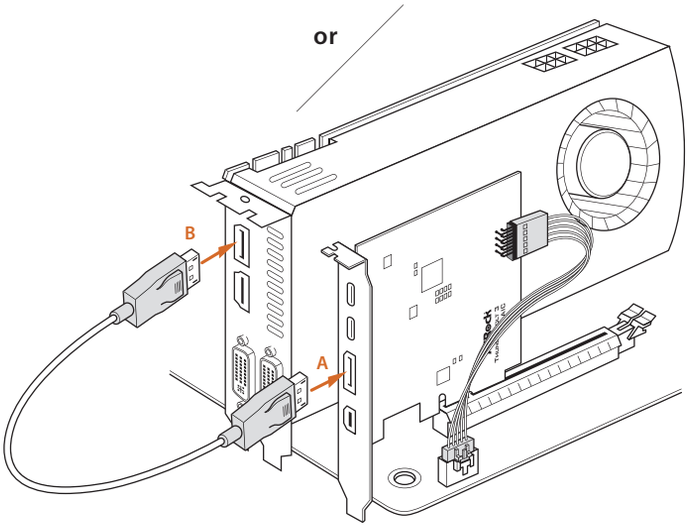
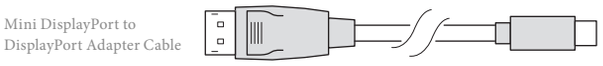
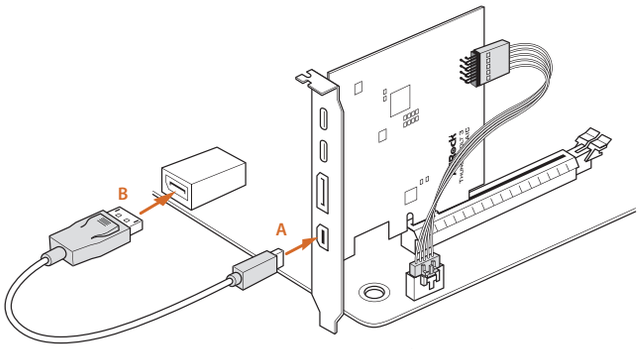


6. Connect one end of the Mini DisplayPort to DisplayPort Adapter Cable to the **Mini DisplayPort Port (A)** on the Thunderbolt 3 AIC. Then connect the other end of the cable to the **DisplayPortPort (B)** on the motherboard's rear I/O panel or on the graphics card.





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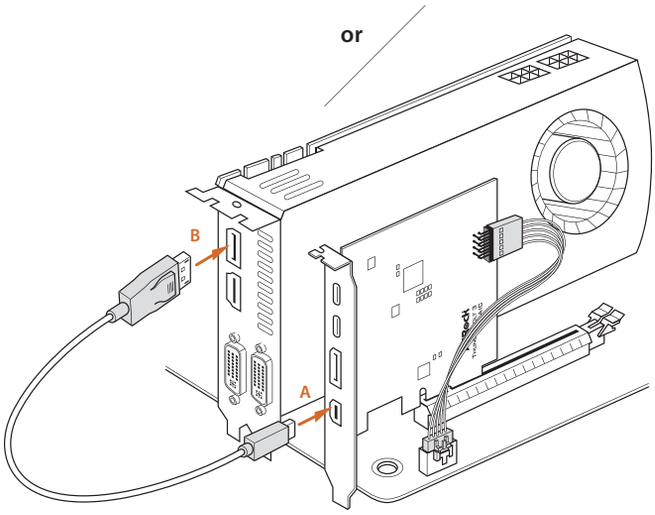
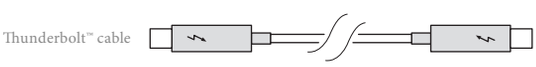


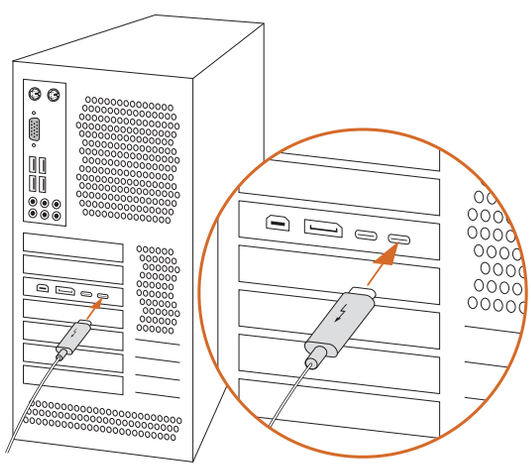
7. Replace the PC cover.
8. Reconnect the power cord and any other cables that were disconnected. Then power on the PC.

2 Connecting the Thunderbolt™ Cable

Connect the Thunderbolt™ cable from your Thunderbolt-enabled device to the **Thunderbolt™ 3 Port** on the Thunderbolt 3 AIC.

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





3 Enabling the Thunderbolt™ Function

After hardware installation is completed, enter the BIOS Setup and enable the Intel® Thunderbolt™ function in BIOS setup.

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
Z390 Taichi Ultimate	PCIE5	x4 from CPU	40Gbps
Z390 Taichi	PCIE5	x4 from CPU	40Gbps
Z390 Phantom Gaming 9	PCIE5	x4 from CPU	40Gbps
Z390 Extreme4	PCIE6	x4 from PCH	40Gbps
Z390 Phantom Gaming 6	PCIE6	x4 from PCH	40Gbps
Z390 Phantom Gaming 4	PCIE4	x4 from PCH	40Gbps
Z390 Phantom Gaming SLI/ac	PCIE4	x4 from CPU	40Gbps
Z390 Phantom Gaming SLI	PCIE4	x4 from CPU	40Gbps
Z390 Pro4	PCIE4	x4 from PCH	40Gbps
B360 Gaming K4	PCIE4	x4 from PCH	40Gbps
B360 Pro4	PCIE4	x4 from PCH	40Gbps
H370 Performance	PCIE4	x4 from PCH	40Gbps
H370 Pro4	PCIE4	x4 from PCH	40Gbps
Z370 Gaming K6	PCIE6	x4 from PCH	40Gbps
Z370 Extreme4	PCIE6	x4 from PCH	40Gbps
Z370 Killer SLI	PCIE4	x4 from CPU	40Gbps
Z370 Killer SLI/ac	PCIE4	x4 from CPU	40Gbps
Z370 Taichi	PCIE5	x4 from CPU	40Gbps
Z370 Professional Gaming i7	PCIE5	x4 from CPU	40Gbps
Z370 Pro4	PCIE4	x4 from PCH	40Gbps
Z270 Professional Gaming i7	PCIE3	x4 from PCH	40Gbps
Z270 Taichi	PCIE3	x4 from PCH	40Gbps
Z270 Gaming K6	PCIE6	x4 from PCH	40Gbps
Z270 Extreme4	PCIE6	x4 from PCH	40Gbps
Z270 Pro4	PCIE4	x4 from PCH	40Gbps
H270 Pro4	PCIE4	x4 from PCH	40Gbps
B250 Pro4	PCIE4	x4 from PCH	40Gbps
Z270 Killer SLI	PCIE4	x4 from CPU	40Gbps
Z270 Gaming K4	PCIE4	x4 from PCH	40Gbps
H270 Performance	PCIE4	x4 from PCH	40Gbps
B250 Gaming K4	PCIE4	x4 from PCH	40Gbps
Z270M Extreme4	PCIE4	x4 from PCH	40Gbps
X299 Professional Gaming i9 XE	PCIE1, 2, 3, 5 (44 Lane) PCIE1, 3, 5 (28 Lane)	x4 from CPU	40Gbps
X299 Taichi XE	PCIE1, 2, 3, 5 (44 Lane) PCIE1, 3, 5 (28 Lane)	x4 from CPU	40Gbps
X299 Professional Gaming i9	PCIE1, 2, 3, 5 (44 Lane) PCIE1, 3, 5 (28 Lane)	x4 from CPU	40Gbps
X299 Taichi	PCIE1, 2, 3, 5 (44 Lane) PCIE1, 3, 5 (28 Lane)	x4 from CPU	40Gbps
X299 OC Formula	PCIE6 (for 44 lanes) PCIE7 (for 28 lanes, 16 lanes)	x4 from PCH	40Gbps
X299 Gaming K6	PCIE2	x4 from PCH	40Gbps
X299 Killer SLI/ac	PCIE2	x4 from PCH	40Gbps
X299 Extreme4	PCIE4	x4 from PCH	40Gbps
X299 Designer+	PCIE2	x4 from PCH	40Gbps
X299M Extreme4	PCIE3	x4 from PCH	40Gbps

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