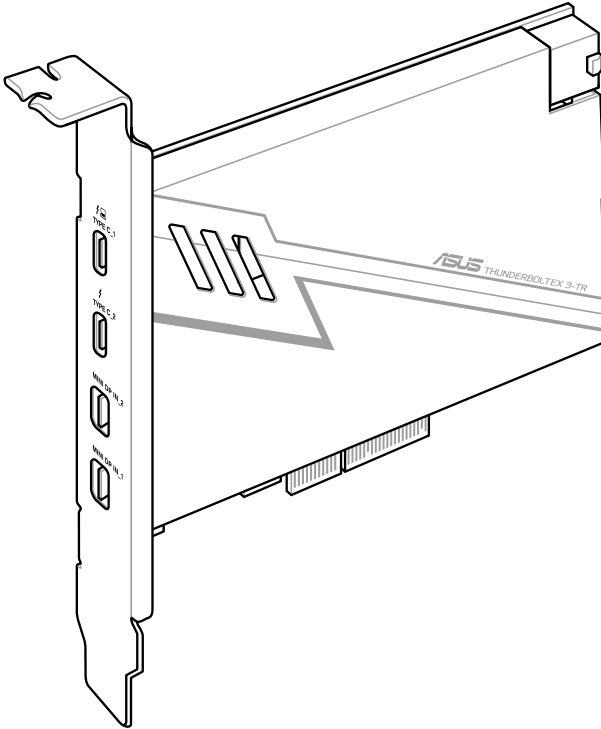


ThunderboltEX 3-TR User Guide



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Welcome!

Congratulations and thank you for buying an ASUS ThunderboltEX 3-TR card!

The ASUS ThunderboltEX 3-TR card provides Thunderbolt™ connection to other Thunderbolt-enabled devices. Use this card to quickly transfer native PCIe and DisplayPort protocols between a PC and Thunderbolt™ devices.

Features

Your ASUS ThunderboltEX 3-TR card features two Thunderbolt™ 3 ports that support Thunderbolt™ 3 technology, and two mini DisplayPort IN ports (support DisplayPort 1.4 specifications) that allow you to redirect VGA input signals through the ThunderboltEX 3-TR card for video output. The Thunderbolt™ 3 port also features a number of features such as 40 Gb/s bi-directional bandwidth and incorporates DisplayPort 1.4 support, enabling transfer and display of 8K video files simultaneously, and allows you to connect up to six Thunderbolt-enabled devices in a daisy-chain configuration using Thunderbolt™ cables. The TYPEC_1 port also supports up to 100W for laptop quick charging.

Package contents

Check your package for the following items:

- 1 x ThunderboltEX 3-TR card
- 2 x Mini DisplayPort Cables
- 1 x USB 2.0 cable
- 1 x 14-1 pin Thunderbolt header cable
- 1 x User manual
- 1 x Support DVD with Thunderbolt™ driver



If any of the above items is damaged or missing, contact your retailer.

ThunderboltEX 3-TR specifications summary

Chipset	Intel® Thunderbolt™ 3 JHL7540 Controller
External Connectors	2 x Thunderbolt™ 3 USB Type-C® ports <ul style="list-style-type: none"> - TypeC_1 port supports up to 20V/5A, 100W quick charge feature. - TypeC_2 port supports up to 9V/3A, 27W quick charge feature. 2 x Mini DisplayPort IN ports <ul style="list-style-type: none"> 1 x 6-pin PCIe power connector for quick charge function 1 x USB 2.0 header 1 x Thunderbolt header
Interface	PCIe 3.0 x4 interface
VGA	Supports DisplayPort 1.4 with max. resolution 7680 x 4320@60Hz
Accessories	2 x Mini DisplayPort Cables (links graphics output from motherboard's or discrete graphics card's DisplayPort to the mini DisplayPort IN port on the ThunderboltEX 3-TR card) <ul style="list-style-type: none"> 1 x USB 2.0 cable 1 x 14-1 pin Thunderbolt header cable
Compatible Models	ASUS Z490/H470/B460 series motherboards and later models* featuring a 14-1 pin Thunderbolt header <p>* Refer to www.asus.com for up-to-date compatible models.</p>
Operating System	Windows® 10 64-bit
Form Factor	4.6 inch x 3.1 inch (11.77 cm x 8.05 cm)

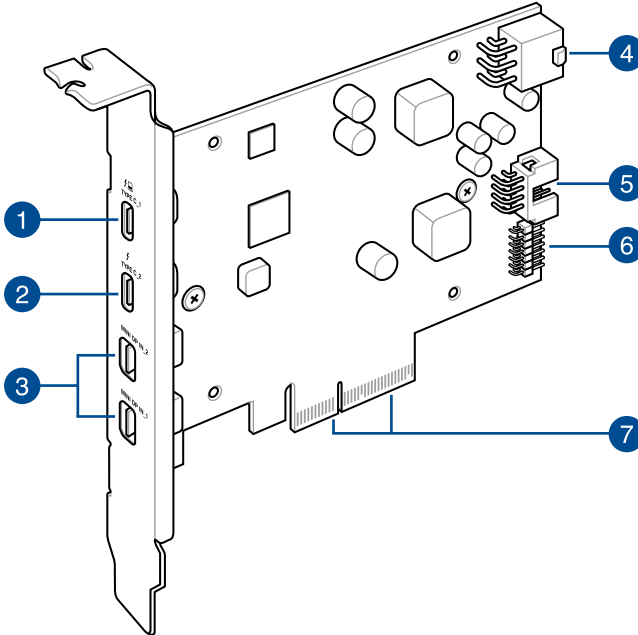


Specifications are subject to change without notice.



- Use only Thunderbolt™ technology-enabled devices that have passed Intel® validation to ensure optimum performance and compatibility with your ThunderboltEX 3-TR card.
- Ensure your monitor complies with DisplayPort 1.4 specifications if you want to connect them in a daisy-chain configuration using the Thunderbolt™ 3 port.

ThunderboltEX 3 card layout



-
- 1 Thunderbolt™ 3 USB Type-C® port
(supports up to 20V/5A, 100W quick charge feature)
 - 2 Thunderbolt™ 3 USB Type-C® port
(supports up to 9V/3A, 27W quick charge feature)
 - 3 Mini DisplayPort IN ports
 - 4 6-pin PCIe power connector
 - 5 USB 2.0 header
 - 6 14-1 Pin Thunderbolt header
 - 7 PCIe 3.0 x4 interface
-

Installing the ThunderboltEX 3-TR card



- The recommended PCIe slot for the ThunderboltEX 3-TR card may differ between models.
- The following illustrations are for reference only. The motherboard layout may vary with models, but the installation steps remain the same.

1. Shut down your PC.
2. Open the chassis.

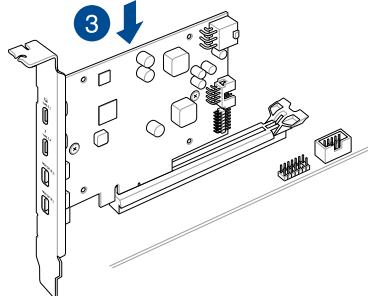


Ensure that no cables or peripherals are blocking the PCIe 3.0 slot.

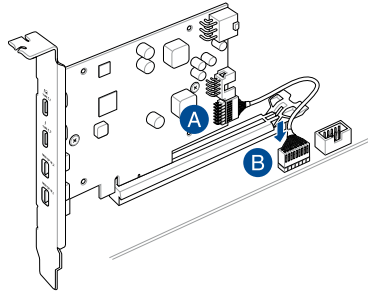
3. Align and insert the ThunderboltEX 3-TR card into a PCIe 3.0 slot until it is securely seated in place.



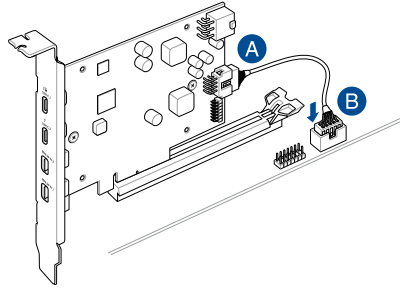
The recommended PCIe slot may differ between models.



4. Connect the bundled 14-1 pin Thunderbolt header cable to the ThunderboltEX 3-TR card (A) and to the TB_HEADER header on the motherboard (B).



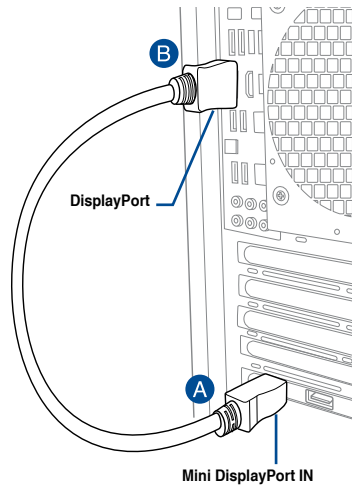
5. Connect the bundled 10-1 pin USB 2.0 cable to the ThunderboltEX 3-TR card (A) and to a USB 2.0 header on the motherboard (B).



6. Connect the DisplayPort cable to the ThunderboltEX 3-TR card's Mini DisplayPort IN port (A) and to the DisplayPort on the motherboard's I/O port (B).



- Ensure to use the Mini DisplayPort **MINI DP IN_1** when using a single Thunderbolt™ display.
- You can also connect the DisplayPort cable to the DisplayPort on a discrete graphic card's I/O port.



7. Close the chassis.
8. Turn on the PC.
9. Connect the Thunderbolt™ 3 cable from your Thunderbolt-enabled device to a USB Type-C® port on the ThunderboltEX 3-TR card.



- The Thunderbolt™ 3 cable is not bundled with the ThunderboltEX 3-TR package. Use the Thunderbolt™ cable that came with your Thunderbolt-enabled device when connecting to the Thunderbolt™ 3 USB Type-C® port on your ThunderboltEX 3-TR card.
- The ThunderboltEX 3-TR card is backward compatible with previous Thunderbolt™ technology.
- Ensure the DisplayPort cable is connected to the Mini DisplayPort **MINI DP IN_1** when using a single Thunderbolt™ display.
- For the recommended daisy-chain configurations or connections, refer to the section **Connecting to external devices** of this user guide.

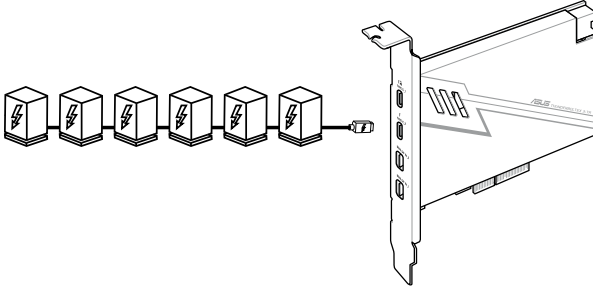
Connecting to external devices



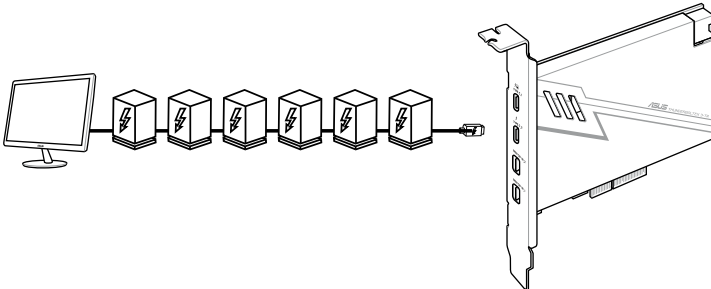
Before connecting any Thunderbolt-enabled devices in a daisy-chain configuration, ensure that it is equipped with one Thunderbolt™ IN port and one Thunderbolt™ OUT port.

You can refer to the following illustrations for the recommended daisy-chain connections:

Six (6) Thunderbolt™ devices



Six (6) Thunderbolt™ devices + one (1) 8K DisplayPort monitor



Installing the ThunderboltEX 3-TR driver

To install the driver, place the Support DVD into the optical drive then follow on-screen instructions to finish the installation.

Notices

FCC Compliance Information

Responsible Party: Asus Computer International

Address: 48720 Kato Rd., Fremont, CA 94538, USA

Phone / Fax No: (510)739-3777 / (510)608-4555

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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3(B)/NMB-3(B)

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CAN ICES-3(B)/NMB-3(B)

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取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

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Turkey RoHS

AEEE Yönetmeliğine Uygundur

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DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

Regional notice for California



WARNING

Cancer and Reproductive Harm -
www.P65Warnings.ca.gov

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