TurboBox™ NA211A-LD

Quick Installation Guide

External PCIe Slot Expansion Box

Version 1.0
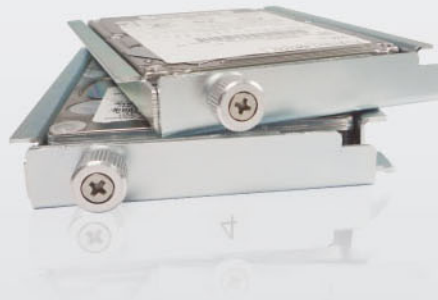
NA211A-LD

1. Overview

TurboBox is an external device for PCI Express slot expansion. Both desktop PCs and laptops can be connected with the TurboBox. This quick installation guide helps you with the setting up of the PCIe slot expansion box.

2. Package checklist

Before the installation of this unit, verify the package contains the following items.
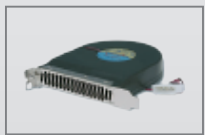
A TurboBox x 1

B Power cord x 1

C CD containing user manual x 1

D Slot blower (installed) x 1

E Carrying bag x 1

Optional combination

One of the following combinations should be determined for connecting the TurboBox NA211A-LD to the desktop PC or laptop.

F Turbo PCI Express

PCI Express adapter for desktop PC

PCIe ×4 to PCIe ×4 data cable, 1.5 meter
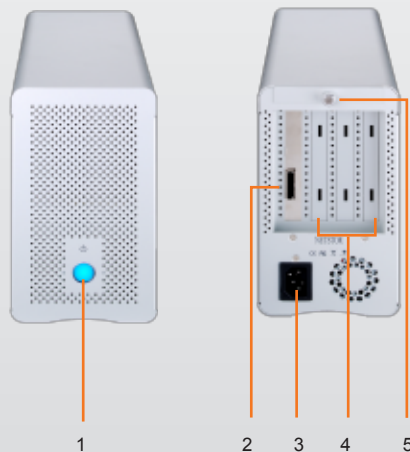
G Turbo ExpressCard

ExpressCard 34 adapter for laptop

PCIe ×4 to Multilane (SFF-8470) data cable, 1 meter

If any of the above items is missing or damaged, please contact your sales representative.

3. Panel layout

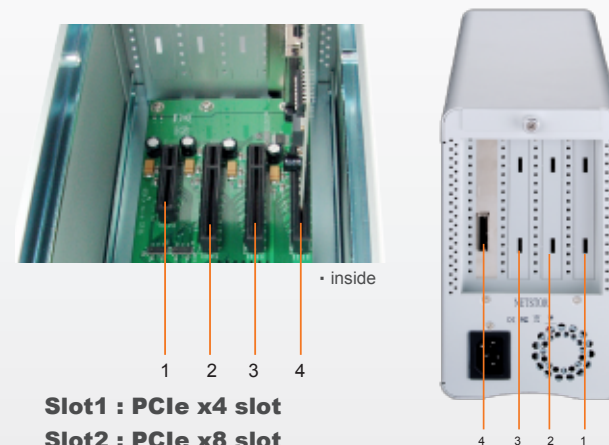### 1. Power button and LED

Blue – Power on

Note: To power on or turn off the TurboBox, press the power button for three seconds.

2. PCIe x4 connector for host connection
3. Power cord receptacle
4. PCIe expansion
5. Thumbscrew for loosening and tightening on the top cover

· inside

1 2 3 4

4 3 2 1

Slot1 : PCIe x4 slot
Slot2 : PCIe x8 slot
Slot3 : PCIe x8 slot
Slot4 : Target adapter card
(already fixed in the TurboBox)

For desktop PCs, the speed of PCIe expansion slots runs at PCIe ×4.

For laptops, the speed of PCIe expansion slots runs at PCIe ×1.

4. Installation of PCIe add-on card on NA211A-LD

In the following, the SAS/SATA RAID/non-RAID card with internal mini-SAS (SFF-8087) connector is taken as an example for installation of PCIe add-on card on NA211A-LD.
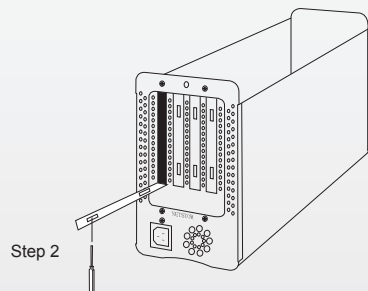
WARNING: Before you install the SAS/SATA RAID/non-RAID card onto NA211A-LD, be sure to disconnect the power source from NA210A-LD in order to prevent electric shock or damage to the add-on card.

1. Loosen the thumbscrew and remove the top cover of NA211A-LD.

Step 1
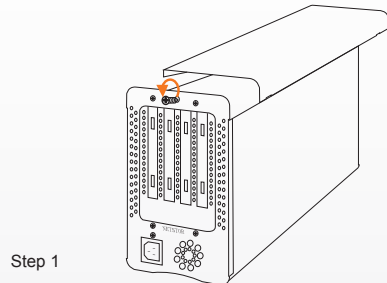
2. Remove one of the lids on rear of NA211A-LD for installation of the SAS/SATA RAID/non-RAID card.

Step 2

WARNING: Using a screwdriver or tools to remove the lid to avoid any injury to your finger.

3. Insert the SAS/SATA RAID/non-RAID card into one of the PCIe ×8 slots, and then tighten the screw on the riser to the NA211A-LD.

Step 3
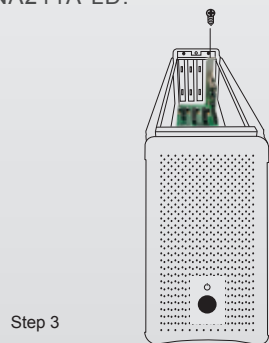
WARNING: The slot blower has been fixed inside the NA211A-LD to help with the ventilation.

5. Installation of 2.5" SAS/SATA hard disk drive or solid state drive on NA211A-LD

1. Loosen the thumbscrew on drive tray. Pull out the lever of tray, and then pull out the drive tray out of the drive enclosure.

pull out

Step 1
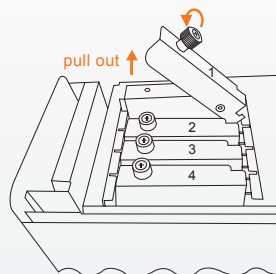
2. Attach 2.5" SAS/SATA hard disk drive or solid state drive onto the drive tray, and then tighten four screws on drive tray. After four screws are tightened on drive tray, insert the drive tray back into drive enclosure.

Step 2
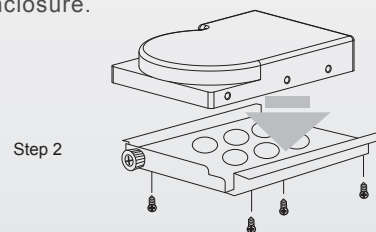
3. When four drive trays with 2.5" SAS/SATA hard disk drives or solid state drives are within drive enclosure inside NA210A-LD, connect the end of mini-SAS data cable to mini-SAS connector on SAS/SATA RAID/non-RAID card.

SAS/SATA RAID/ non-RAID card

Step 3
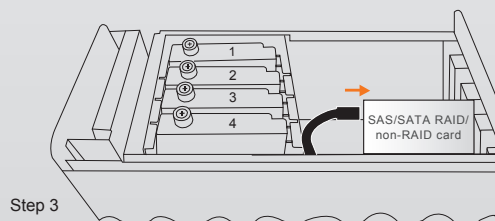
4. Put the top cover back to the top of NA211A-LD, and then tighten the thumbscrew on the top cover.
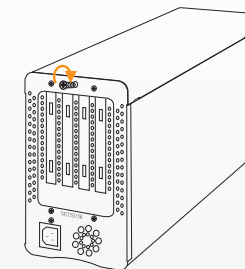
5. Connect the power cord to the power cord receptacle and the end of PCIe ×4 data cable to the PCIe ×4 connector on rear of NA211A-LD.

6. Fan Speed Adjustment

You are able to adjust the speed of 80×80×25 mm cooling fan on TurboBox NA211A-LD. To adjust the fan speed, pull the 80×80×25 mm cooling fan out, and you will see five sets of jumpers labeled with F, 1, 2, 3, and 4 respectively from left to right on the board.
The default setting is the jumper being placed over pin 9 and pin 10 for label 4, meaning the slowest speed of fan. If the jumper is placed over pin 1 and pin 2 for label F, the fan will spin at full speed. From label 1 to label 3, the fan speed decreases. If all of the pins are open (meaning no jumper is placed over the pins), the fan will not spin.
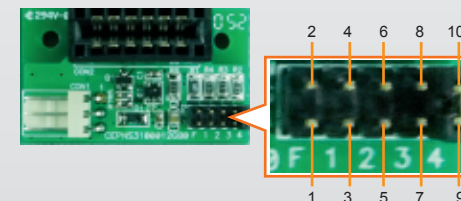
7. Installation of host adapter card and cable connection

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· For laptop

A. Connect the end of PCI Express data cable with screw connector to Turbo ExpressCard 34 host adapter.

B. Insert the Turbo ExpressCard 34 host adapter into the ExpressCard slot on laptop.

· For desktop PC

WARNING: Before the installation of the host adapter card on desktop PC, be sure to disconnect the power source from the desktop PC in order to prevent electric shock or damage to the add-on card.

A. Install Turbo PCI Express host adapter card into a PCI Express ×4 slot (a PCI Express ×8 or ×16 slot is also available) on desktop PC, and then tighten the screw on the riser to the desktop PC.
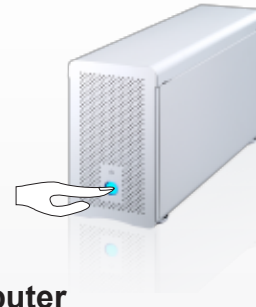
motherboard
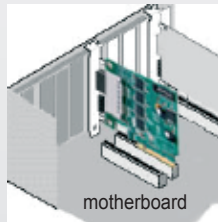
B. Connect the end of PCI Express ×4 data cable to Turbo PCI Express host adapter card on desktop PC.

8. Power on the TurboBox

Press the power button for three seconds to power on the TurboBox.

9. Power on the computer

You should always power on TurbBox first, and then turn on the computer in order to make BIOS on computer identify TurboBox and arrange resources in an appropriate way.

Software or driver is not needed after the connection between TurboBox and computer is made, but as a third party PCIe card is installed in TurboBox, a request for driver of the third party PCIe card will be prompted by the operating system.

10. Remove TurboBox and power off

· For removing NA210A-LD from laptop

A. Double click the icon of safely remove hardware in the bottom right side of the screen, and then disconnect TurboBox from the application.
B. Power off TurboBox.

· For desktop PC

A. Power off desktop PC.
B. Power off TurboBox.

11. Verify installation

· For Windows operating system

When you want to verify a successful installation on Windows operating system, go to **My Computer** and right click the icon of **My Computer**. Select **Manage** from the menu (see figure 9-1), and click **Device Manager** in the left side of window of Computer Management (see figure 9-2).
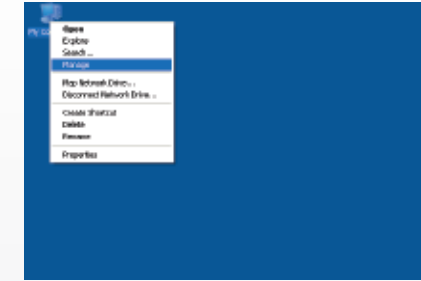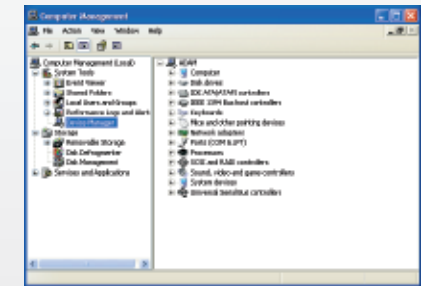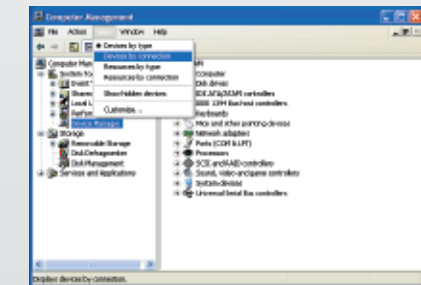
Figure 9-1

Figure 9-2

And then click **View** from the top side of the window, and select **Devices by connection**.

Open ACPI Multiprocessor PC, open Microsoft ACPI-Compliant System, open PCI bus, click PCI Express Root Port, click PCI standard PCI-to-PCI bridge, and click again PCI standard PCI-to-PCI bridge. And then you will find your third party PCIe card under PCI standard PCI-to-PCI bridge.

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Note: You may see PCI Express Root Ports with different ending numbers such as 2940, 2948, and 294A. These different ending numbers indicate different PCIe slots on motherboard.
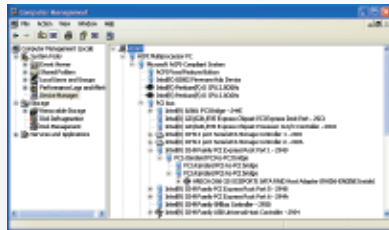
If there is no third party PCIe card plugged in TurboBox, you will see two PCI standard PCI-to-PCI bridges below the PCI Express Root Port. When the third PCIe slot (x4) on TurboBox is plugged with the third party PCIe card, three PCI standard PCI-to-PCI bridges will be shown below the PCI Express Root Port.

Note: If there is a yellow exclamation mark in front of the third party PCIe card under PCI standard PCI-to-PCI bridge, it means the third party PCIe card is without the driver, so you have to install its driver on operating system to make it work with the computer.

After the driver is installed on operating system, the third party PCIe card will work properly with the computer via TurboBox, and the name of the third party PCIe card will be shown under PCI standard PCI-to-PCI bridge; furthermore, the name of the third party PCIe card will also be shown in the list of Device Manager.
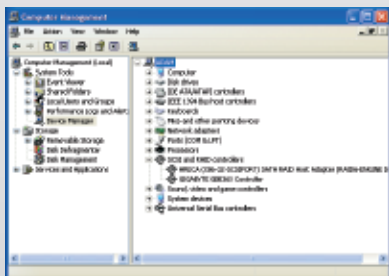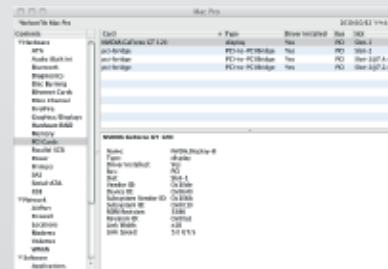

• For Mac OS X

To verify a successful installation on Mac OS X, select **About This Mac** under the Apple icon.
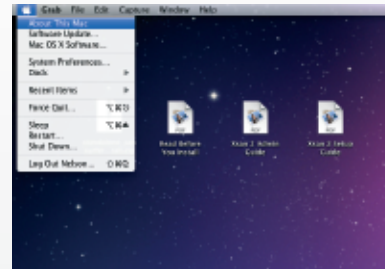
Click **More Info**… from the window.

Click **PCI Cards** from the left side of the window, and when there is no third party PCIe card plugged in TurboBox, you will see three pci-bridges that indicate three PCIe slots on TurboBox.

When a third party PCIe card is plugged in one of the PCIe slots on TurboBox, the third party PCIe card will be shown under the three pci-bridges.

When the driver of the third party PCIe card is installed on Mac OS X, your computer will begin working with the third party PCIe card on TurboBox.