

# **TS-x63XU**

**TS-463XU**

**TS-463XU-RP**

**TS-863XU**

**TS-863XU-RP**

**TS-1263XU**

**TS-1263XU-RP**

## **User Guide**

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# 1. Preface





## About This Guide

This guide provides information on the QNAP TS-x63XU NAS and step-by-step instructions on installing the hardware. It also provides instructions on basic operations and troubleshooting information.

## Audience

This document is intended for consumers and storage administrators. This guide assumes that the user has a basic understanding of storage and backup concepts.

## Document Conventions

Symbol	Description
	Notes provide default configuration settings and other supplementary information.
	Important notes provide information on required configuration settings and other critical information.
	Tips provide recommendations or alternative methods of performing a task or configuring settings.
	Warnings provide information, that when ignored, may result to potential loss, injury, or even death.

## 2. Product Overview

This chapter provides basic information about the QNAP TS-x63XU NAS.

### About the TS-x63XU

The TS-x63XU series is a professional solution designed for data storage, backup, sharing, and centralized management. It is powered by a high-performance AMD quad-core 2.0 GHz processor, and loaded with 4 GB of SODIMM DDR3L memory that can be scaled up to 16 GB. Each TS-x63XU NAS features a 10GBASE-T network expansion card for increased bandwidth and throughput. With its AES-NI encryption engine, the TS-x63XU accelerates the performance of encrypted file transfers. The NAS is also provisioned for expansion with its USB 3.0 Type-A ports.

### Hardware Specifications








#### Important

Modifying the hardware or software of your QNAP product invalidates the warranty. QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications.

Ordering P/N	Drive Bays	Memory	Power Supply
TS-463XU-4G	4	4 GB	Single
TS-463XU-RP-4G			Redundant
TS-863XU-4G	8		Single
TS-863XU-RP-4G			Redundant
TS-1263XU-4G	12		Single
TS-1263XU-RP-4G			Redundant

Component	TS-463XU TS-463XU-RP	TS-863XU TS-863XU-RP	TS-1263XU TS-1263XU-RP
Processor			
CPU	AMD quad-core 2.0 GHz processor		
Architecture	64-bit		
Encryption engine	AES-NI		
Memory			
Pre-installed memory	1 x 4 GB SODIMM DDR3L Use only non-error-correcting code (ECC) QNAP memory modules to maintain system performance and stability. For NAS devices with more than one memory slot, use non-ECC QNAP modules with identical specifications.		
	<b>Important</b> Using unsupported modules may degrade performance, cause errors, or prevent the operating system from starting.		
Total memory slots	2 x SODIMM DDR3L		
Maximum memory	16 GB: 2 x 8 GB SODIMM DDR3L		
Storage			
Drive bays	4 x SATA 6 Gbps	8 x SATA 6 Gbps	12 x SATA 6 Gbps

Component	TS-463XU TS-463XU-RP	TS-863XU TS-863XU-RP	TS-1263XU TS-1263XU-RP
Drive compatibility	<ul style="list-style-type: none"> <li>• 3.5-inch SATA hard disk drives</li> <li>• 2.5-inch SATA hard disk drives</li> <li>• 2.5-inch SATA solid state drives</li> </ul>		
Hot-swappable	Yes		
Network			
10 Gigabit Ethernet ports	1 x 10GBASE-T  <b>Note</b> This port also supports 5GbE, 2.5GbE, and 1GbE networking.		
Gigabit Ethernet ports	4 x RJ45		
External I/O Ports & Expansion Slots			
PCIe slots	1 x PCIe 2.0 x4  <b>Note</b> A 10GBASE-T network expansion card is pre-installed in this slot.		
USB ports	<ul style="list-style-type: none"> <li>• 2 x USB 3.0 Type-A</li> <li>• 3 x USB 2.0 Type-A</li> </ul>	<ul style="list-style-type: none"> <li>• 2 x USB 3.0 Type-A</li> <li>• 2 x USB 2.0 Type-A</li> </ul>	<ul style="list-style-type: none"> <li>• 2 x USB 3.0 Type-A</li> <li>• 2 x USB 2.0 Type-A</li> </ul>
Interface			
Buttons	Power		
Maintenance port	1 x 3.5 mm console port		
Dimensions			
Form factor	1U rackmount	2U rackmount	2U rackmount
Dimensions (H x W x D)	44 x 439 x 499 mm 1.73 x 17.28 x 19.65 in	89 x 482 x 534 mm 3.5 x 18.98 x 21.02 in	89 x 482 x 534 mm 3.5 x 18.98 x 21.02 in
Net weight	7.63 kg (16.82 lbs)	11.02 kg (24.29 lbs)	16.14 kg (35.58 lbs)
Other			
Power supply unit	<ul style="list-style-type: none"> <li>• TS-463XU: 1 x 250W, 100-240V AC, 50/60 Hz</li> <li>• TS-463XU-RP: 2 x 250W, 100-240V AC, 50/60 Hz</li> </ul>	<ul style="list-style-type: none"> <li>• TS-863XU: 1 x 250W, 100-240V AC, 50/60 Hz</li> <li>• TS-863XU-RP: 2 x 250W, 100-240V AC, 50/60 Hz</li> </ul>	<ul style="list-style-type: none"> <li>• TS-1263XU: 1 x 350W, 100V-240V AC, 50/60 Hz</li> <li>• TS-1263XU-RP: 2 x 300W, 100-240V AC, 50/60 Hz</li> </ul>
System battery	CR2032 lithium battery (3V, 225mAh)  <b>Warning</b> When replacing the system battery, only use the same battery type as the existing one to avoid explosions.		

Component	TS-463XU TS-463XU-RP	TS-863XU TS-863XU-RP	TS-1263XU TS-1263XU-RP
Sound level	<ul style="list-style-type: none"> <li>TS-463XU: 36.5 dB(A)</li> <li>TS-463XU-RP: 36.4 dB(A)</li> </ul>	<ul style="list-style-type: none"> <li>TS-863XU: 35.0 dB(A)</li> <li>TS-863XU-RP: 36.4 dB(A)</li> </ul>	<ul style="list-style-type: none"> <li>TS-1263XU: 35.7 dB(A)</li> <li>TS-1263XU-RP: 39.2 dB(A)</li> </ul>
	 <b>Note</b> The sound levels were tested at a bystander position, which is within one meter from the NAS. The test NAS operated at low speed with the maximum number of drives installed.		
Fans	System: 2 x 40 mm, 12V DC	System: 2 x 70 mm, 12V DC	System: 2 x 70 mm, 12V DC
	 <b>Warning</b> To avoid serious injuries, do not touch the fans while the NAS is connected to a power source.		
Operating temperature	0 to 40°C (32 to 104°F)		
Relative humidity	<ul style="list-style-type: none"> <li>Non-condensing relative humidity: 5 to 95%</li> <li>Wet-bulb temperature: 27°C (80.6°F)</li> </ul>		

**Tip**

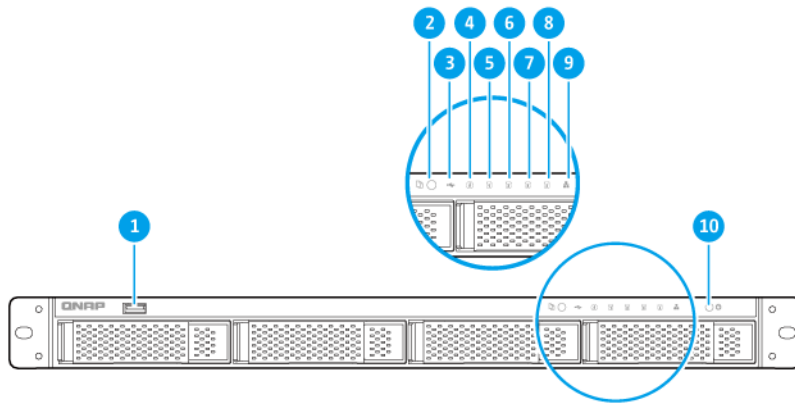
Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

## Package Contents

Item	Quantity
TS-x63XU	1
Power cord	<ul style="list-style-type: none"> <li>TS-x63XU models: 1</li> <li>TS-x63XU-RP models: 2</li> </ul>
Ethernet cable	2
Screws for 3.5-inch drives	<ul style="list-style-type: none"> <li>TS-463XU, TS-463XU-RP: 16</li> <li>TS-863XU, TS-863XU-RP: 32</li> <li>TS-1263XU, TS-1263XU-RP: 48</li> </ul>
Screws for 2.5-inch drives	<ul style="list-style-type: none"> <li>TS-463XU, TS-463XU-RP: 12</li> <li>TS-863XU, TS-863XU-RP: 24</li> <li>TS-1263XU, TS-1263XU-RP: 36</li> </ul>
Quick Installation Guide (QIG)	1

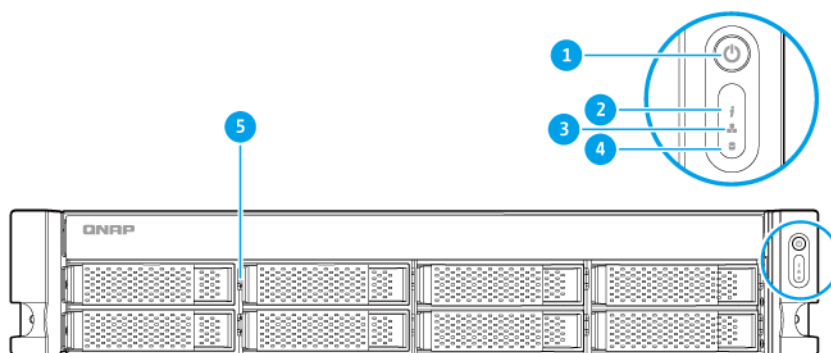
## Components

## Front Panel



### TS-463XU, TS-463XU-RP

No.	Component	No.	Component
1	USB 2.0 Type-A port	6	Drive 2 LED
2	USB One Touch Copy button	7	Drive 3 LED
3	USB LED	8	Drive 4 LED
4	Status LED	9	LAN LED
5	Drive 1 LED	10	Power button

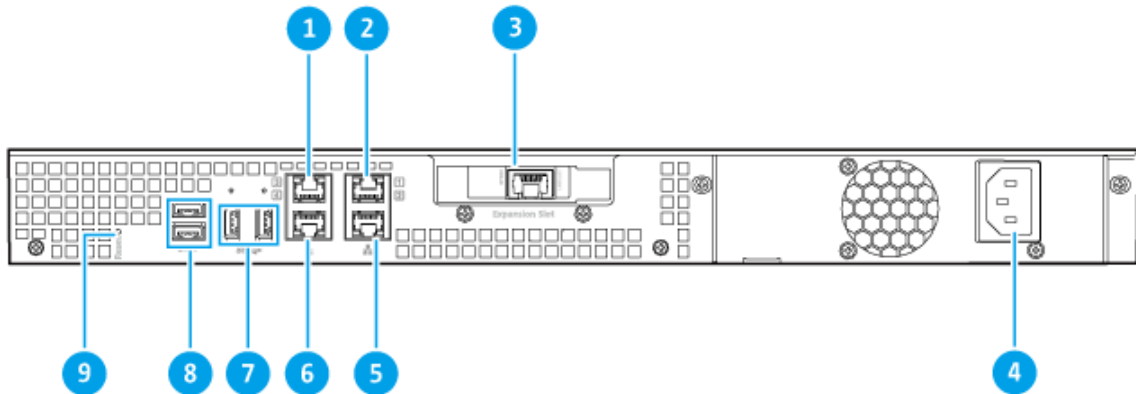


### TS-863XU, TS-863XU-RP, TS-1263XU, TS-1263XU-RP

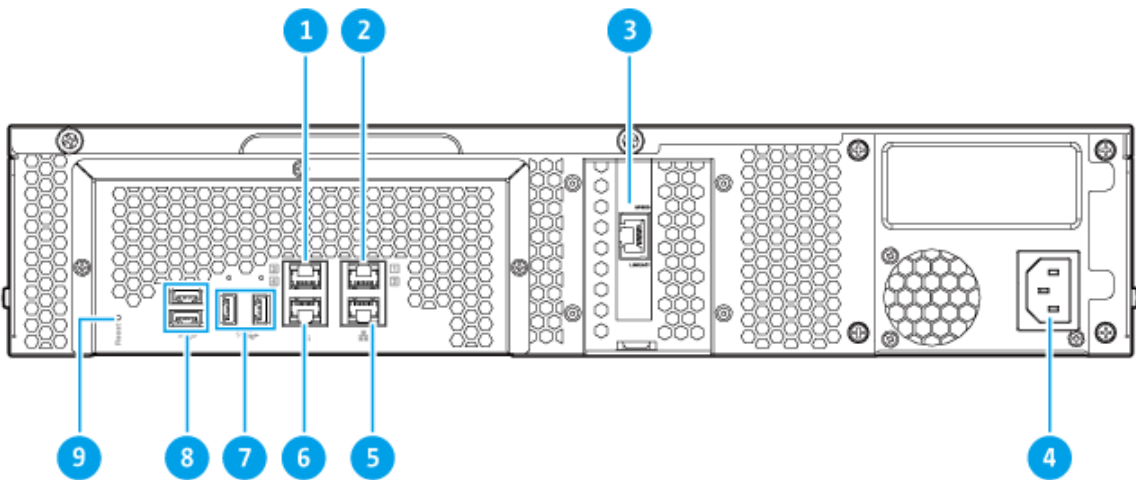


No.	Component	No.	Component
1	Power button	4	Expansion unit LED
2	Status LED	5	Drive LED
3	LAN LED	-	-

## Rear Panel



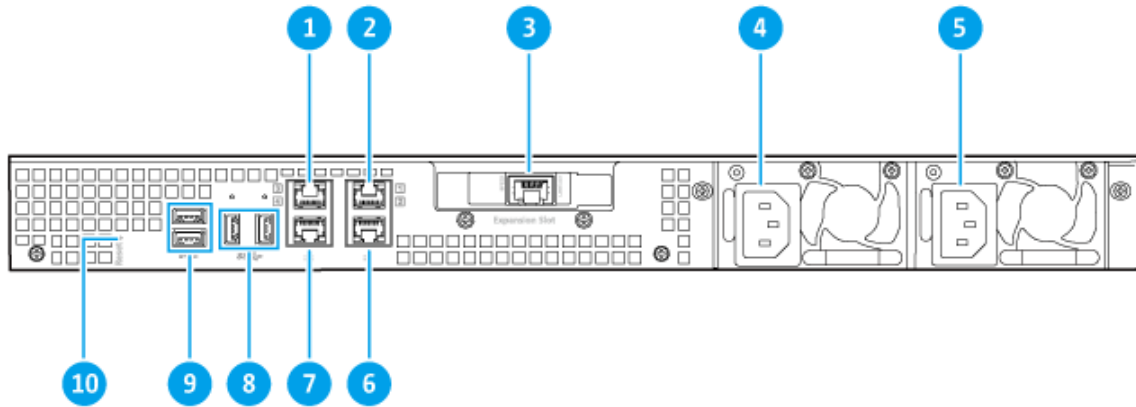
### TS-463XU



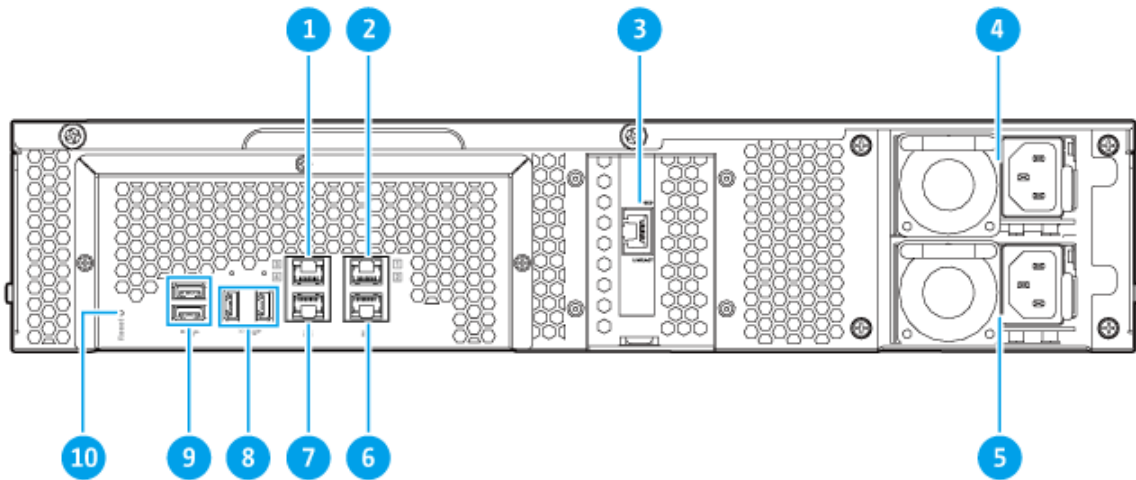
### TS-863XU, TS-1263XU

No.	Component	No.	Component
1	Gigabit Ethernet (RJ45) port 3	6	Gigabit Ethernet (RJ45) port 4
2	Gigabit Ethernet (RJ45) port 1	7	USB 3.0 Type-A ports
3	10GBASE-T port	8	USB 2.0 Type-A ports

No.	Component	No.	Component
4	Power input	9	Reset button
5	Gigabit Ethernet (RJ45) port 2	-	-



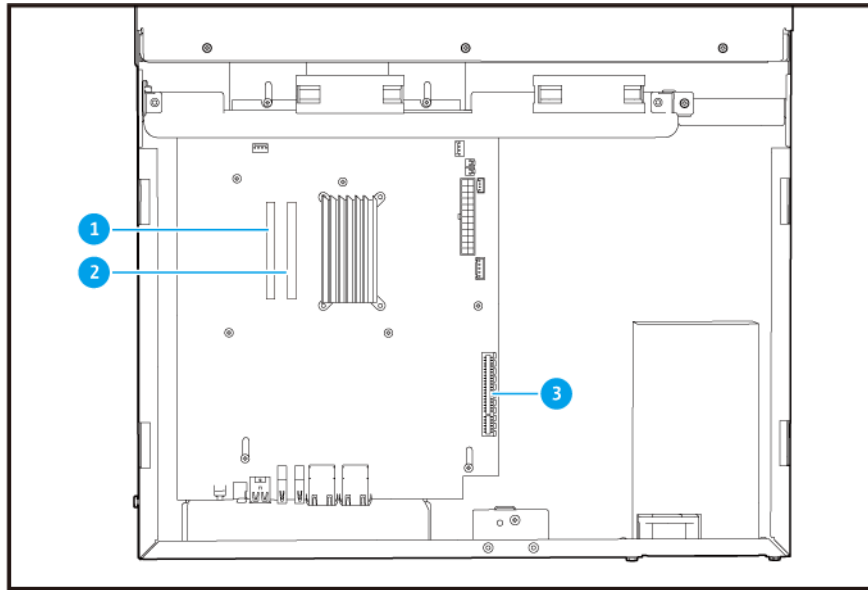
#### TS-463XU-RP



#### TS-863XU-RP, TS-1263XU-RP

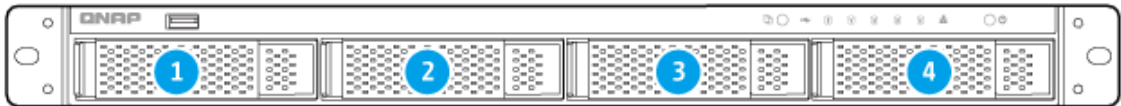
No.	Component	No.	Component
1	Gigabit Ethernet RJ45 port 3	6	Gigabit Ethernet RJ45 port 2
2	Gigabit Ethernet RJ45 port 1	7	Gigabit Ethernet RJ45 port 4
3	10GBASE-T port	8	USB 3.0 Type-A ports
4	Power supply unit 1	9	USB 2.0 Type-A ports
5	Power supply unit 2	10	Reset button

## System Board

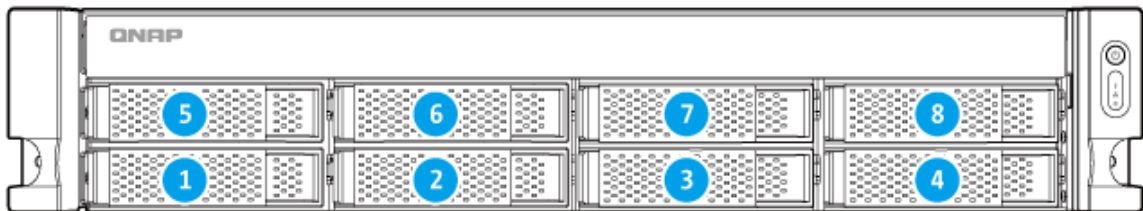


No.	Component	No.	Component
1	Memory slot 1	3	PCIe 2.0 x4 slot
2	Memory slot 2	-	-

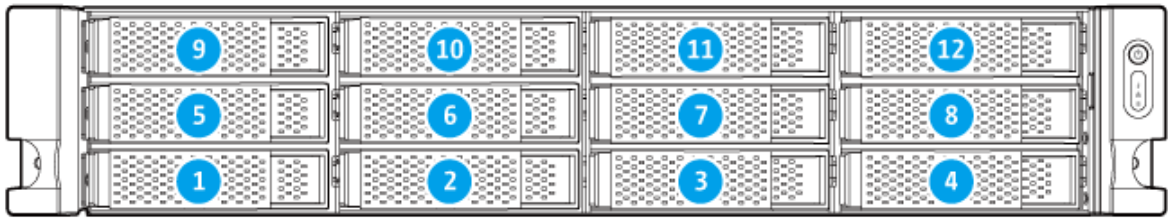
## Front Drive Numbering



**TS-463XU, TS-463XU-RP**



**TS-863XU, TS-863XU-RP**



## TS-1263XU, TS-1263XU-RP

### Safety Information

The following instructions help ensure personal safety and environmental safety. Read these instructions carefully before performing any operation.

#### General Instructions

- The device should be stored in a secure location with restricted access, controlled through the use of a tool, lock and key, or any means of security.
- Only qualified, skilled, and authorized persons with knowledge of all restrictions, safety precautions, and installation and maintenance procedures should have physical access to the device.
- To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.
- Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

#### Power

- To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



Devices with redundant power supply may have one or more power supply unit (PSU) cords. To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

#### System Battery

- This product contains a button battery.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- Keep batteries out of reach of children.
- If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.
- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.

- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.

### Moving Parts

- 



**Moving fan blades:** Keep your body parts away from moving fan blades while the device is connected to a power source.

- 



**Moving components:** Keep your body parts away from other moving components.

- The device is not suitable for use in locations where children are likely to be present.

### Installation Requirements

Category	Item
Environment	<ul style="list-style-type: none"> <li>• Room temperature: 0 to 40°C (32 to 104°F)</li> <li>• Non-condensing relative humidity: 5 to 95%</li> <li>• Wet-bulb temperature: 27°C (80.6°F)</li> <li>• Flat, anti-static surface with no exposure to direct sunlight, liquids, and chemicals</li> </ul>
Hardware and peripherals	<ul style="list-style-type: none"> <li>• Storage drives For details on compatible drives, go to <a href="https://www.qnap.com/compatibility/">https://www.qnap.com/compatibility/</a>.</li> <li>• Network cable</li> </ul>
Tools	<ul style="list-style-type: none"> <li>• Phillips #1 or #2 screwdriver</li> <li>• Anti-static wrist strap</li> </ul>

### Setting Up the NAS



#### Important

Read all safety requirements and information in [Safety Information](#) carefully before setting up the NAS or installing NAS components.

1. Place your NAS device in an environment that meets the requirements.  
For details, see [Installation Requirements](#).
2. Install the NAS on a rack.
3. Verify that the intake vents on the bottom of the case are unobstructed.
4. Install the drives.  
For details, see the following topics:

- [Installing 3.5-inch Hard Drives](#)
  - [Installing 2.5-inch Hard Drives](#)
5. Connect the power cord and all applicable cables.
  6. Power on the NAS.
  7. Install QTS.  
For details, see [QTS Installation](#).
  8. Log on to QTS.

## 3. Installation and Configuration

This chapter provides specific hardware and firmware installation and configuration steps.

### Hardware Installation

This section provides information on installing drives, memory modules, and expansion cards.

#### Drive Installation

##### Installing 3.5-inch Hard Drives



#### Warning

- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

- 



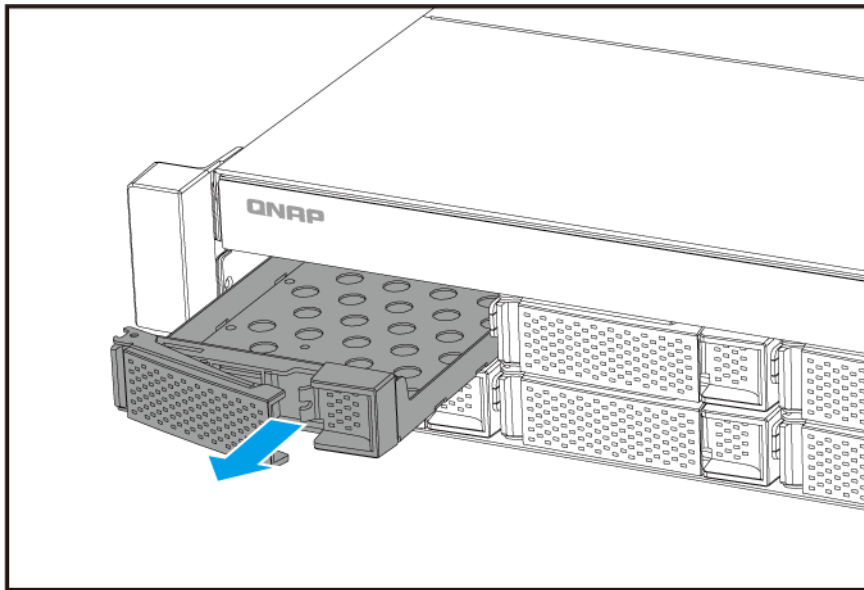
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

- 



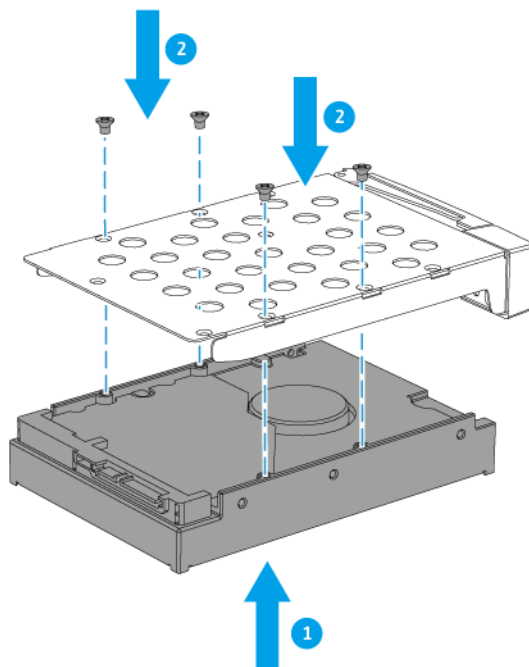
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.
2. Remove the drive tray.
  - a. Pull the handle to release the tray.
  - b. Pull the tray out.



**3. Install a drive on the tray.**

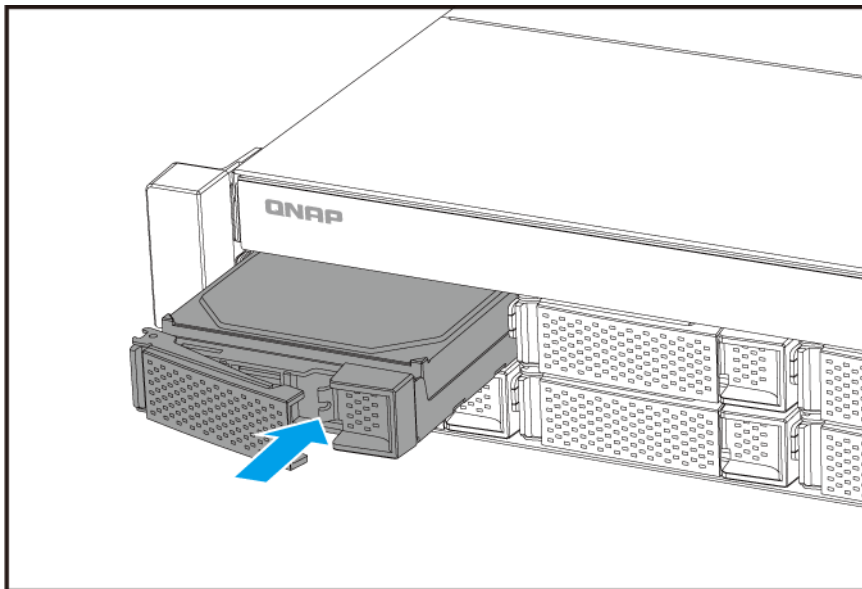
- a.** Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.
- b.** Attach the screws.



**4. Load the tray into the drive bay.**



- a. Insert the tray into the bay.
- b. Push the handle.



5. Power on the NAS.

## Installing 2.5-inch Hard Drives



### Warning

- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

•



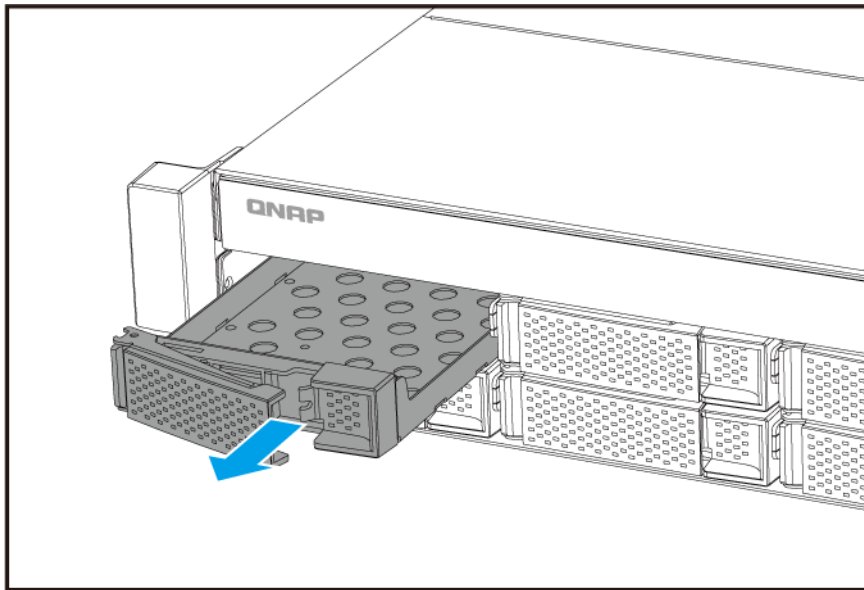
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

•



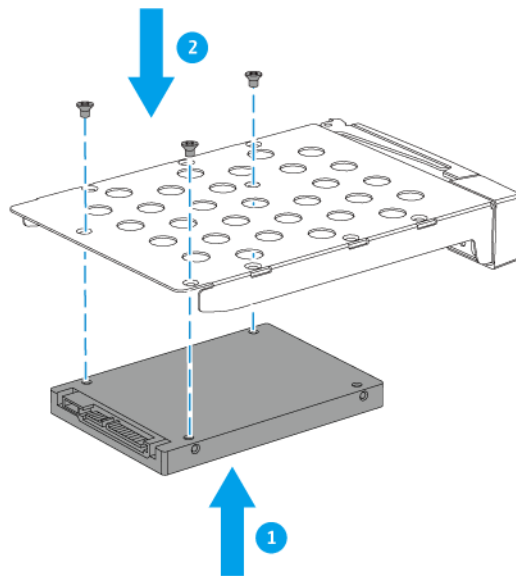
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.
2. Remove the drive tray.
  - a. Pull the handle to release the tray.
  - b. Pull the tray out.



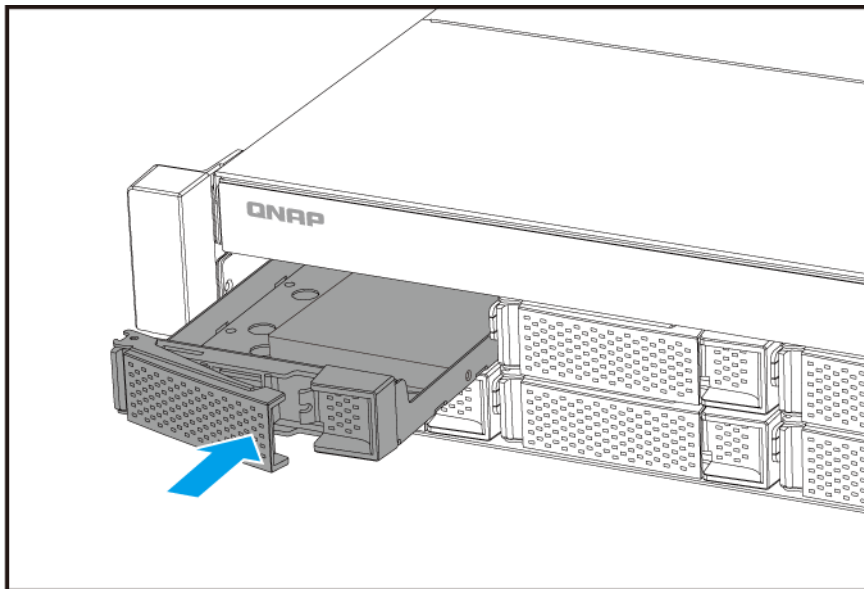
**3. Install a drive on the tray.**

- a.** Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.
- b.** Attach the screws.



**4. Load the tray into the drive bay.**

- a. Insert the tray into the bay.
- b. Push the handle.



5. Power on the NAS.

## Installing Expansion Cards

A 10GBASE-T network expansion card is pre-installed in the PCIe slot. You can replace it with another supported PCIe expansion card.

QNAP-branded expansion cards purchased from the company website are shipped with the brackets necessary to fit all QNAP NAS models. All TS-x63XU models use low-profile brackets.



### Warning

- Only qualified personnel should perform the following steps. Failure to follow instructions can result in serious injury or death.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.



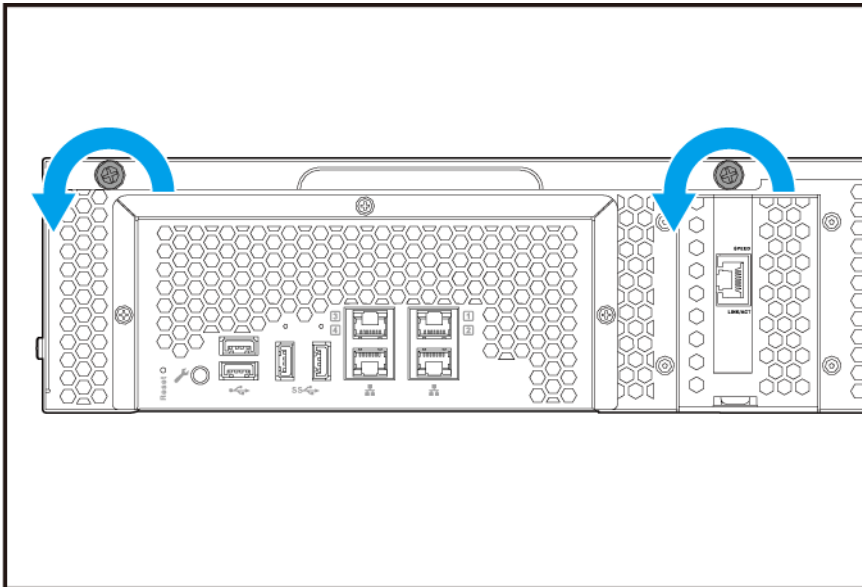
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.



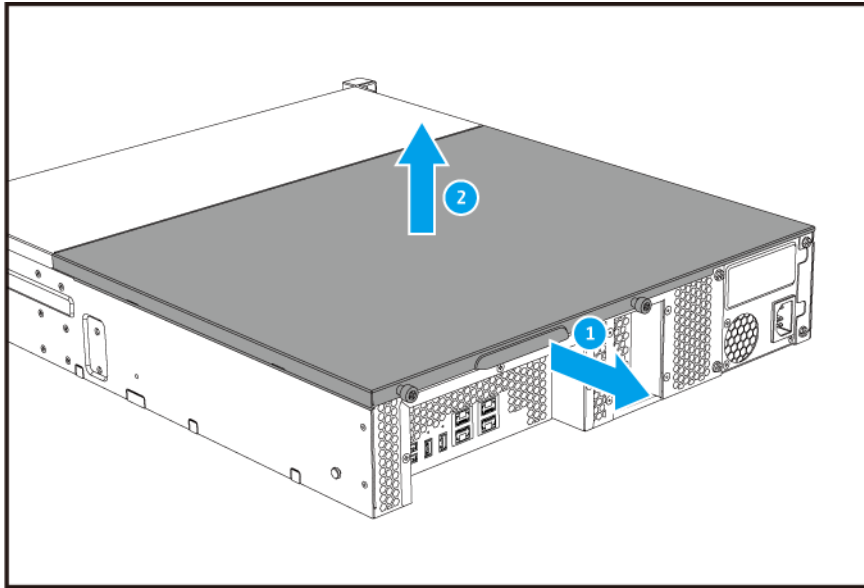
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Check the expansion cards and brackets supported by your model on the QNAP website.

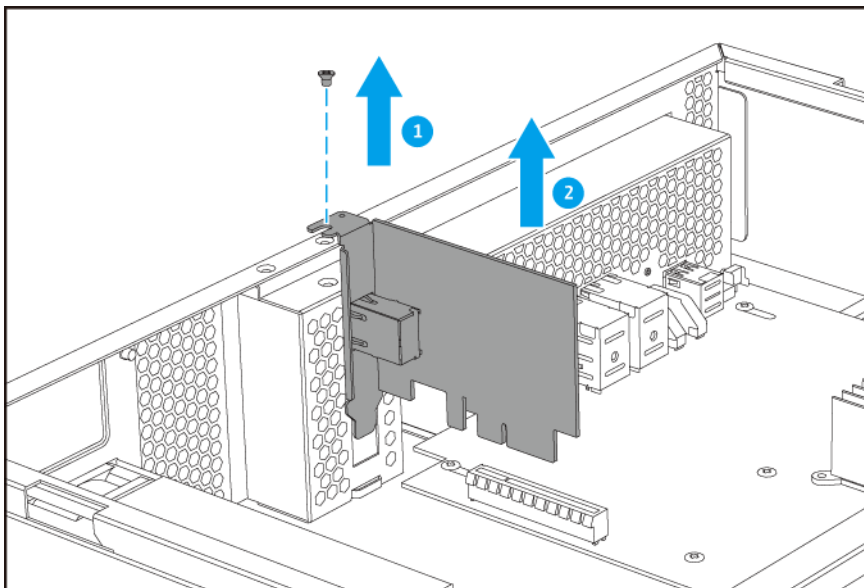
- a. Go to [www.qnap.com/compatibility](http://www.qnap.com/compatibility).
  - b. Click **Search by NAS**.
  - c. Specify the number of bays and the specific model of your NAS.
  - d. Under **Category**, select the component or device type.
  - e. Locate a specific component or device model in the list.
  - f. Optional: Click the corresponding **Note** icon to view more information.
2. Power off the NAS.
  3. Disconnect the power cord from the electrical outlet.
  4. Disconnect all cables and external attachments.
  5. Remove the top cover.
    - a. Loosen the two screws on the back of the top cover.



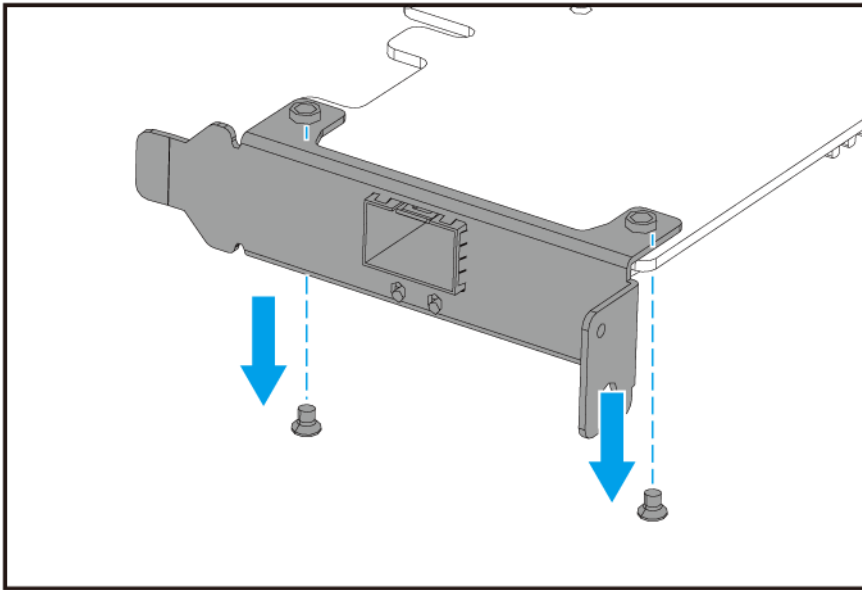
- b. Slide the cover away from the NAS using the handle.
- c. Lift the top cover up.



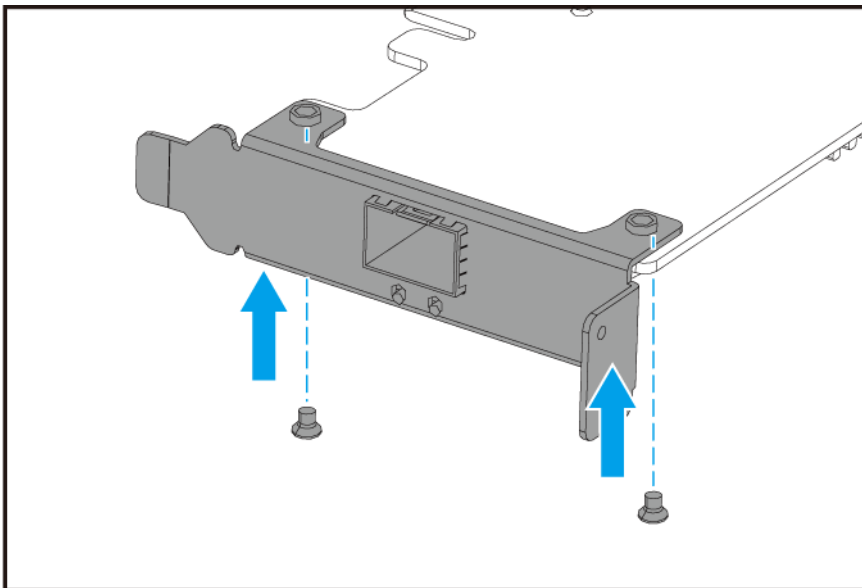
6. Remove the existing expansion card.
  - a. Remove the screw that secures the PCIe bracket to the chassis.
  - b. Hold the card by the edges and then carefully pull it out of the slot.



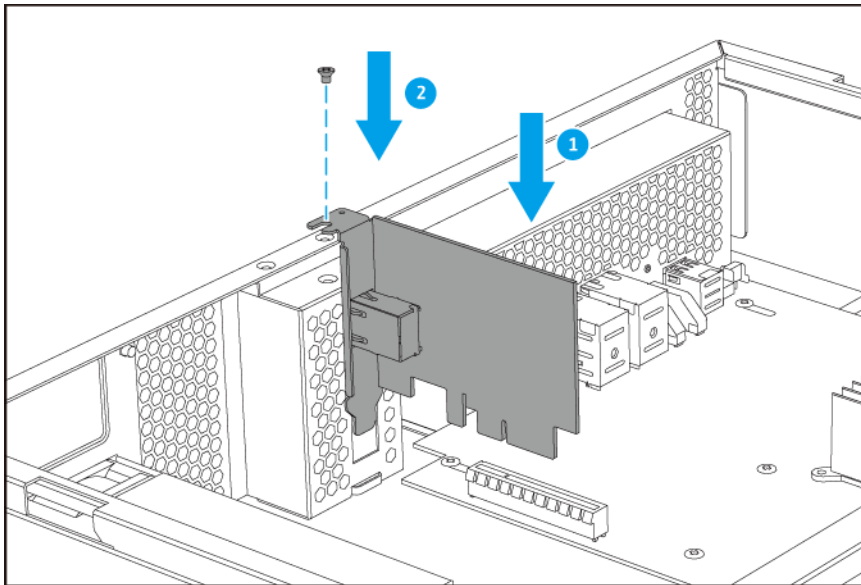
7. Attach the QNAP bracket to the expansion card.
  - a. Remove all screws of the existing bracket.



- b.** Carefully pull the bracket away from the card.
- c.** Attach the QNAP bracket to the card using the same screws.

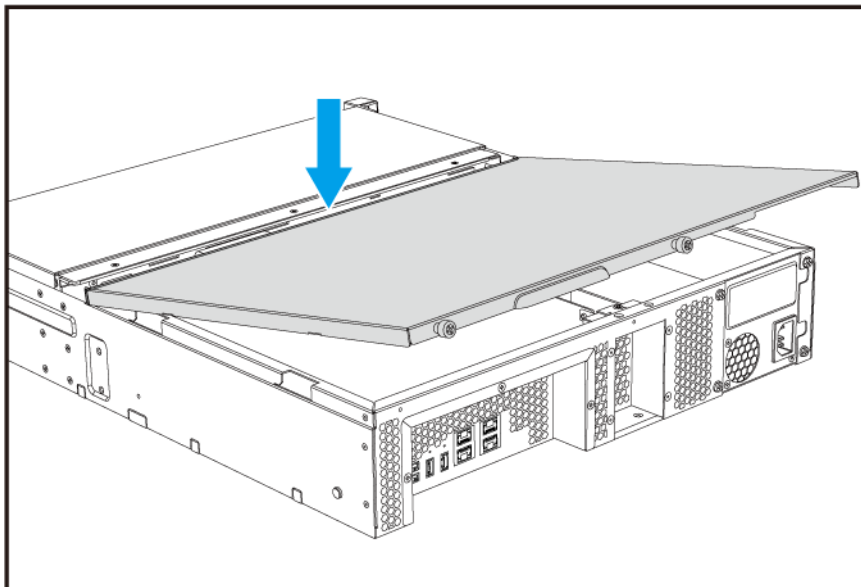


- d.** Verify that the bracket does not move.
- 8.** Install the expansion card.
- a.** Hold the expansion card by the edges.
  - b.** Insert the card into the slot.
  - c.** Attach the screw.

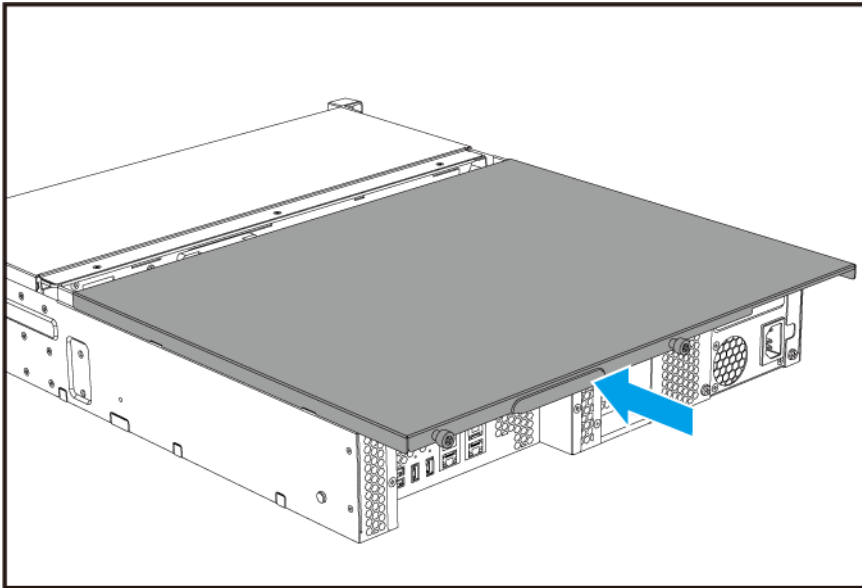


**9. Attach the top cover.**

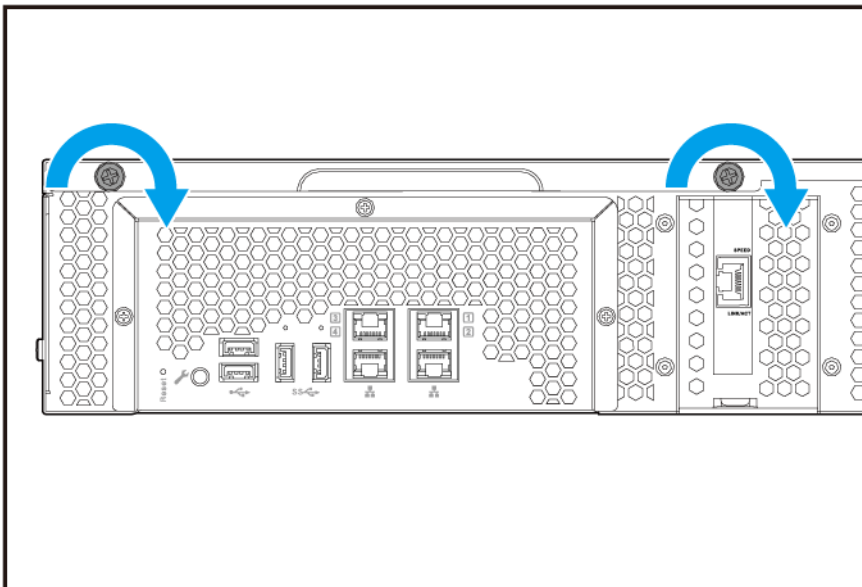
- a.** Place the cover on the NAS.



- b.** Slide the cover toward the NAS.



c. Tighten the screws.



10. Connect all cables and external attachments.
11. Connect the power cord to the electrical outlet.
12. Power on the NAS.

## Expansion Units

The TS-x63XU supports USB expansion units.



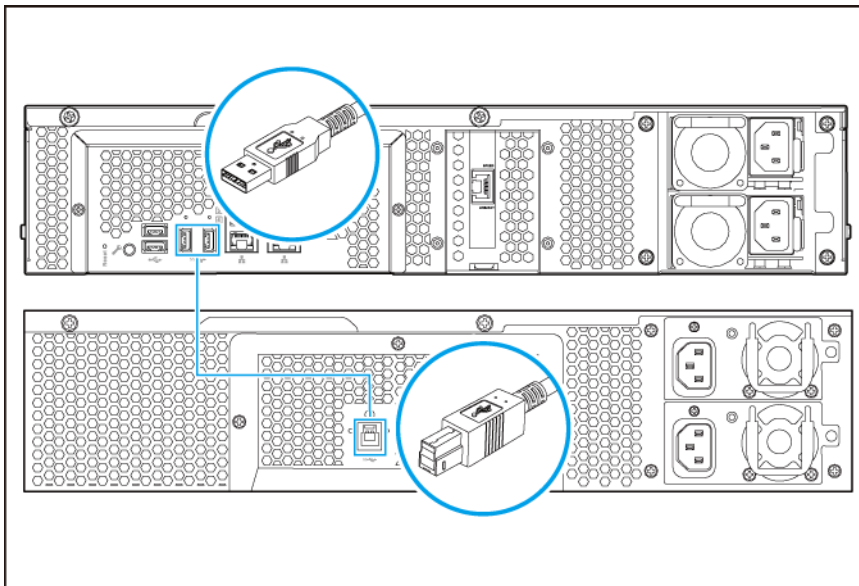
Type	Description	Required Accessories
USB	<ul style="list-style-type: none"> <li>• Uses a USB 3.0 Type-A interface</li> <li>• Supports a maximum of one expansion unit</li> <li>• Supports SATA 6 Gbps drives</li> </ul>	RAIL-B01 rail kit RAIL-B02 rail kit

## Connecting USB Expansion Units

The TS-x63XU supports a maximum of one USB expansion unit and is compatible with the following models:

- UX-800U-RP
- UX-1200U-RP

1. Connect the expansion unit to the NAS.
  - a. Connect the USB cable to the USB 3.0 Type-B port on the expansion unit.
  - b. Connect the USB cable to a USB 3.0 Type-A port on the NAS.



2. Power on the expansion unit.
3. Verify that the expansion unit is recognized by the NAS.
  - a. Log on to QTS as administrator.
  - b. Go to **Control Panel > Storage & Snapshots > Overview > System** .
  - c. Verify that the expansion unit is listed.

## Replacing Memory Modules

The NAS has two memory slots. You can increase the memory capacity of the NAS by upgrading the memory modules. When using multiple modules, use only QNAP modules of the same type and capacity to maintain system performance and stability. You can purchase QNAP memory modules from authorized resellers.



### Important

When replacing modules, ensure that a module is always installed in slot 1. For details on slot numbering, see [System Board](#).



### Warning

- Only qualified personnel should perform the following steps. Failure to follow instructions can result in serious injury or death.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

- 



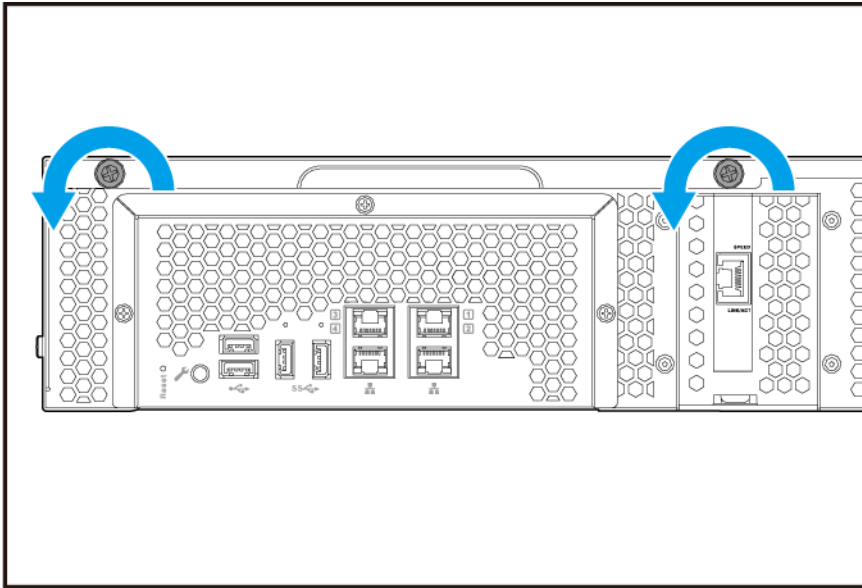
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

- 

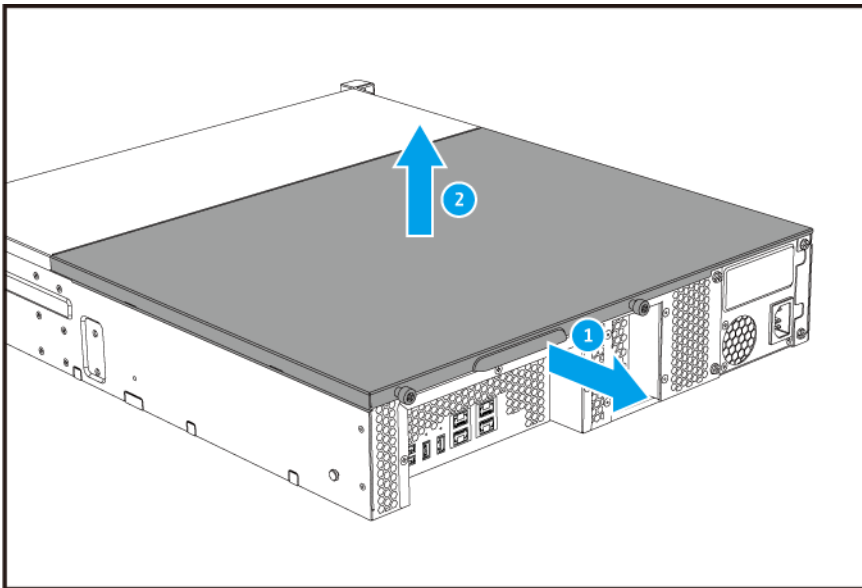


**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the top cover.
  - a. Loosen the two screws on the back of the top cover.



- b. Slide the cover away from the NAS using the handle.
- c. Lift the top cover up.

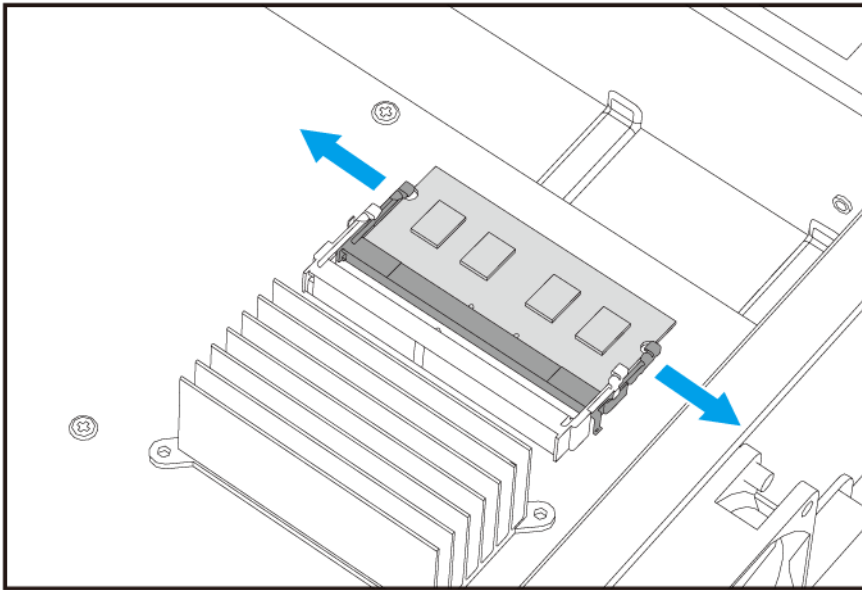


- 5. Remove an existing module.
  - a. Push the retention clips outward simultaneously to release the module.



**Warning**

Attempting to remove a module that is not completely released may damage the module and the motherboard.

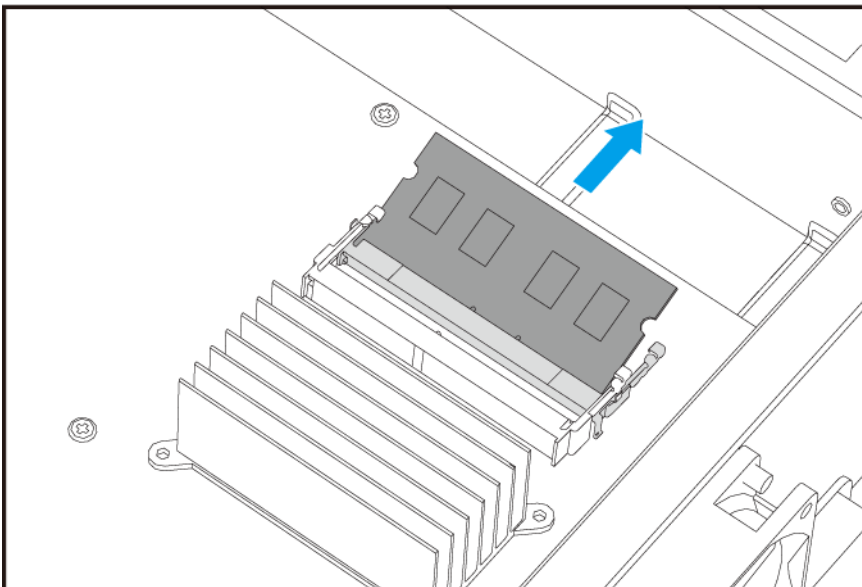


**b.** Hold the module by the edges and then carefully slide it out of the slot.



### Warning

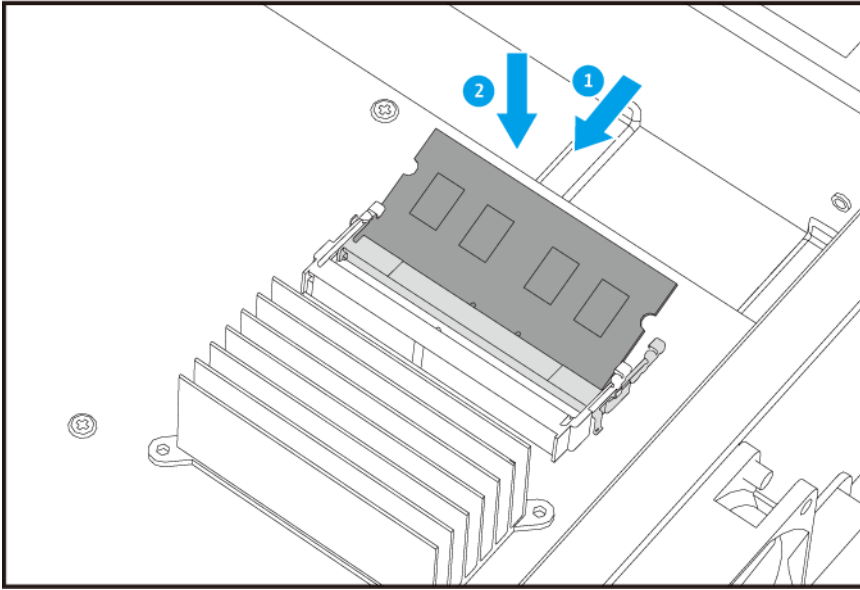
- Do not touch the components, particularly the metal connectors.
- Do not bend the module.



**6.** Install a new module.

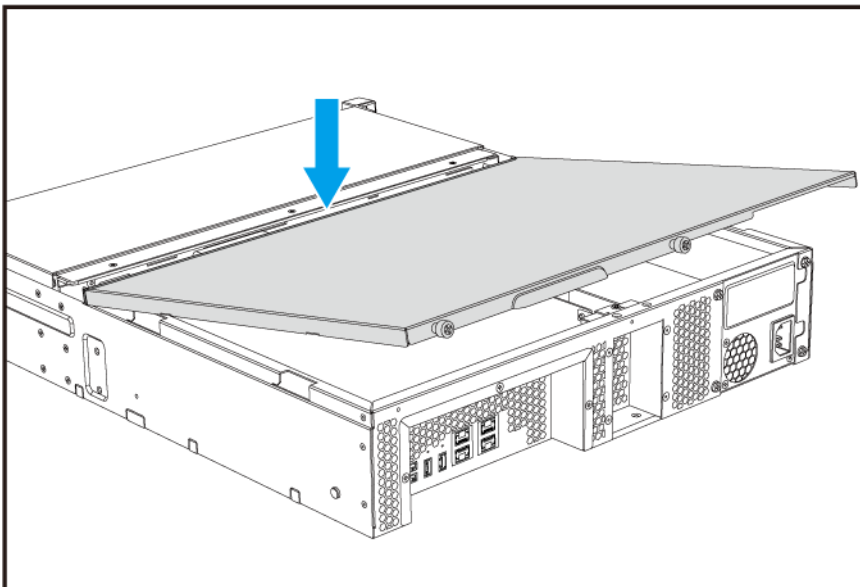
- Align the notch with the ridge in the slot.
- Insert the module into the slot.
- Verify that the metal connectors are completely inserted into the slot.

- d. Carefully press down on the module until the retention clips lock the module into place.

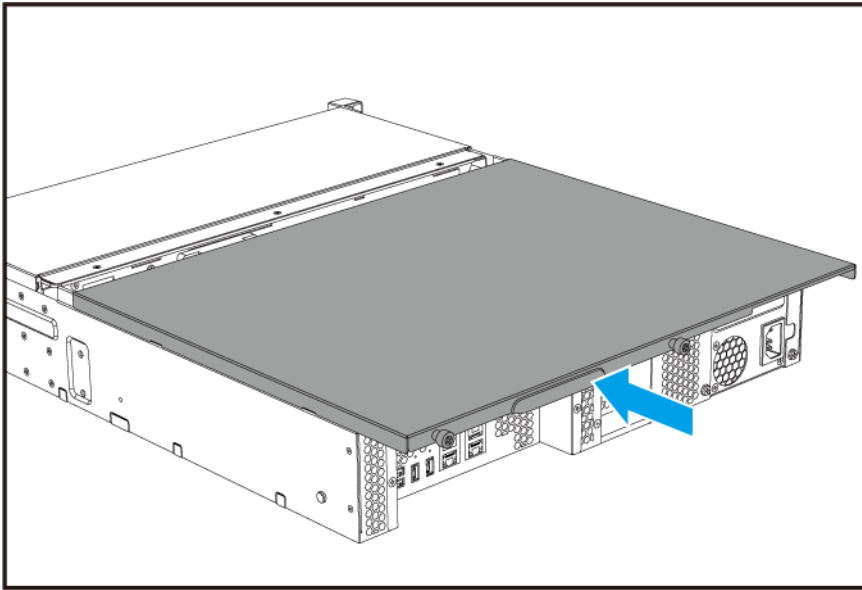


## 7. Attach the top cover.

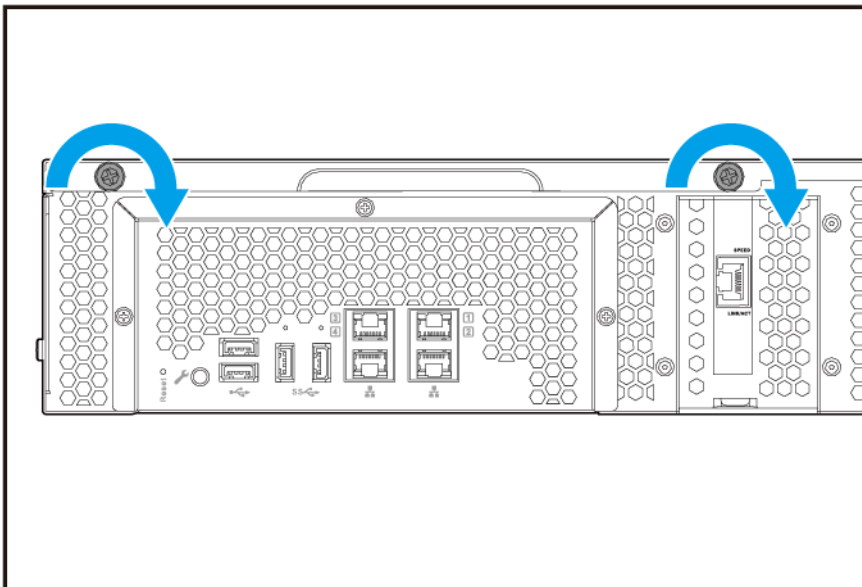
- a. Place the top cover on the NAS.



- b. Slide the cover toward the NAS.



c. Tighten the screws.

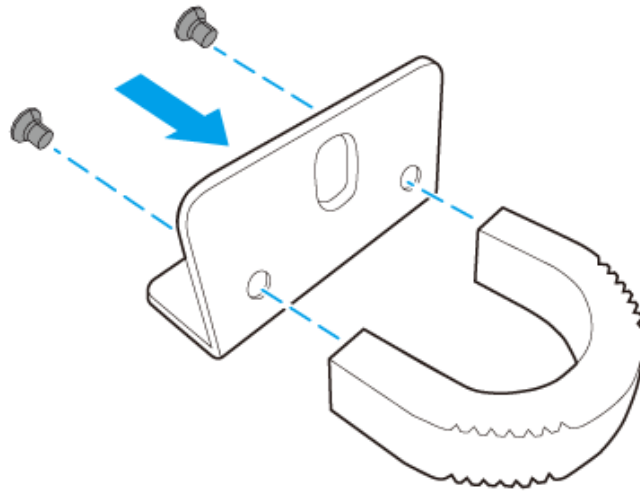


8. Connect all cables and external attachments.
9. Connect the power cord to the electrical outlet.
10. Power on the NAS.
11. Verify that the module is recognized by the NAS.
  - a. Log on to QTS as administrator.
  - b. Go to **Control Panel > System > System Status > Hardware Information** .
  - c. Check the value for **Total memory**.

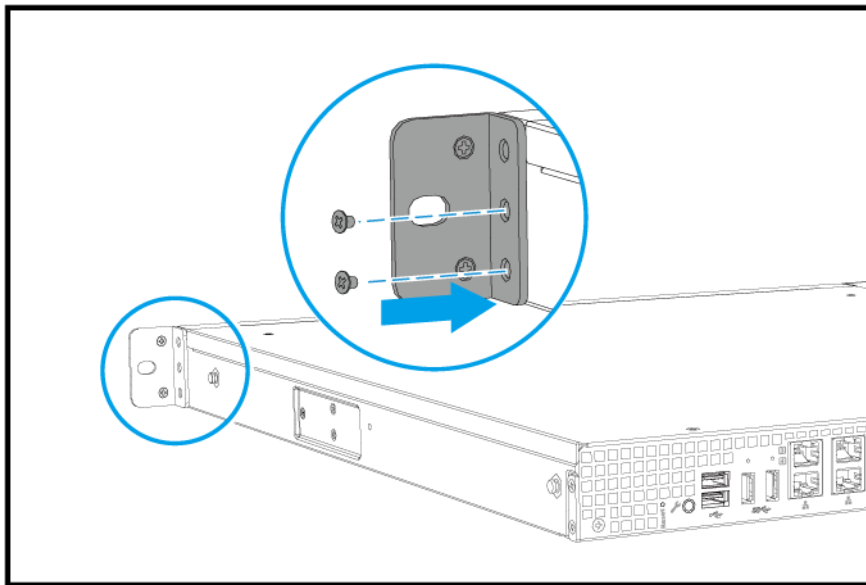
## Installing Handles

Installing handles enables you to better grip and further secure the NAS on a rack. Handles on the TS-463XU and TS-463XU-RP require manual installation.

1. Power off the NAS.
2. Install a handle on an angle bracket.
  - a. Align the openings of the handle with the screw holes of the angle bracket.
  - b. Attach the screws to lock the handle to the angle bracket.



3. Install the angle bracket on the NAS.
  - a. Align the holes on the angle bracket with the holes on the left side of the chassis.
  - b. Ensure the handle faces the same direction as the front panel.
  - c. Attach the screws to lock the angle bracket to the chassis.



4. Install a second handle on the other side of the chassis.
5. Power on the NAS.

## Hot-swapping Redundant Power Supply Units

NAS devices with redundant power supply units (PSUs) support hot-swapping.



### Warning

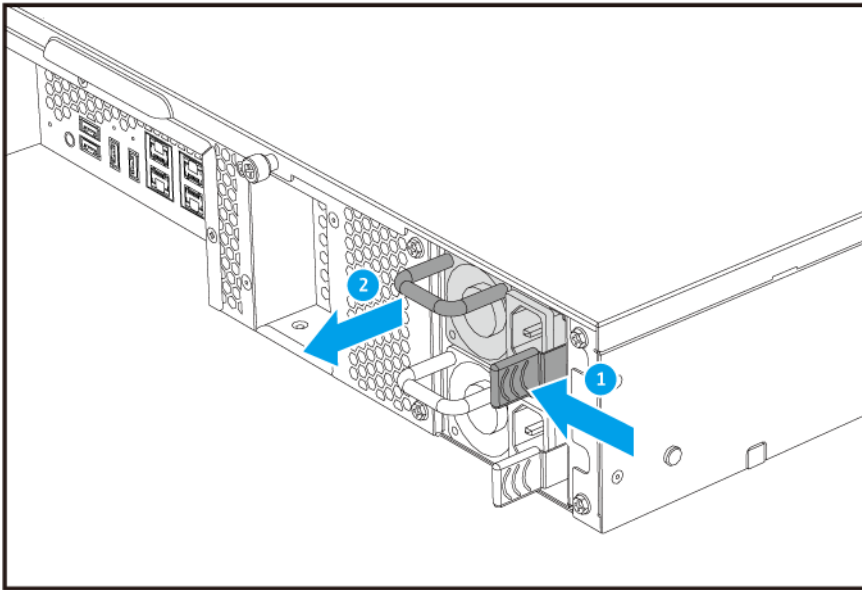
- Electric shock hazard.
- 



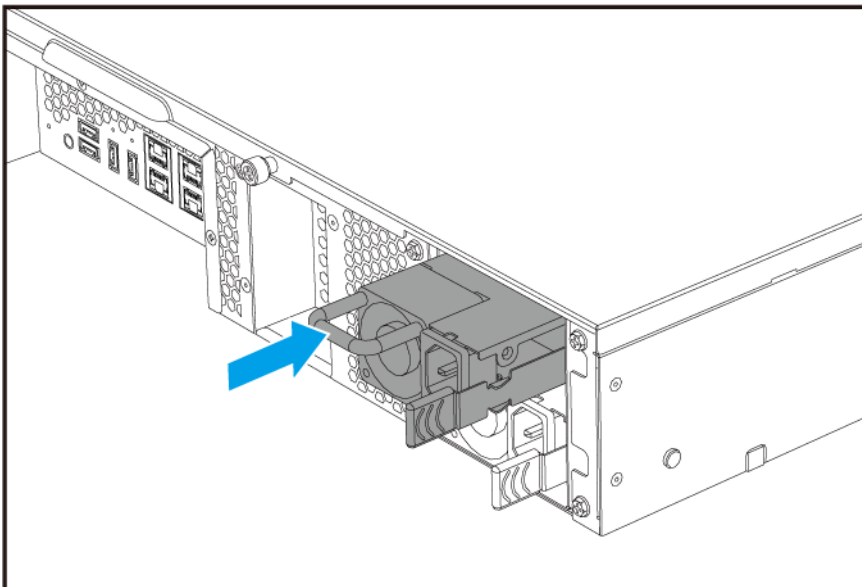
The NAS may have one or more power supply unit (PSU) cords. To avoid serious injuries, a trained service technician must disconnect all PSU cords before installing or replacing system components.

1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet and the PSU that you want to replace.
3. Firmly press the latch toward the handle and then pull the PSU out.





4. Insert the new PSU.



5. Connect the power cord to the PSU and the electrical outlet.

6. Power on the NAS.

7. Enable alerts for PSU failures.

- a. Log on to QTS as administrator.
- b. Go to **Control Panel > System > Hardware > General**.
- c. Select **Enable Redundant Power Supply Mode**.
- d. Click **Apply All**.

## Rail Kits

The TS-x63XU is compatible with the following models:

Model	Compatible Rail Kit
TS-463XU TS-463XU-RP TS-863XU TS-863XU-RP TS-1263XU TS-1263XU-RP	RAIL-B01 RAIL-B02

Rail kits are not included with the NAS and must be purchased separately. For details, contact an authorized reseller or go to <http://shop.qnap.com>.

You can find installation information in the rail kit package.

## QTS Installation

Method	Description	Requirements
Qfinder Pro installation (Recommended)	If the NAS is connected to your local area network, you can do the following: <ul style="list-style-type: none"> <li>• Locate the NAS using Qfinder Pro.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Network cable</li> <li>• Qfinder Pro installer</li> </ul>
Cloud installation	If the NAS is connected to the internet, you can do the following: <ul style="list-style-type: none"> <li>• Scan the QR code on the NAS.</li> <li>• Specify the Cloud Key.</li> <li>• Log into your myQNAPcloud account.</li> <li>• Use CloudLink to remotely access your NAS.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer or mobile device</li> <li>• myQNAPcloud account</li> <li>• CloudKey</li> </ul>

## Installing QTS Using Qfinder Pro



### Warning

Installing QTS deletes all data on the drives. Back up your data before proceeding.

1. Power on the NAS.
2. Connect the NAS to your local area network.
3. Run Qfinder Pro on a computer that is connected to the same local area network.



### Note

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

4. Locate the NAS in the list and then double-click the name or IP address. The **Smart Installation Guide** opens in the default web browser.
5. Click **Start Smart Installation Guide**.
6. Specify the following information.
  - **NAS name:** Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
  - **Password:** Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.
7. Click **Next**.
8. Specify the time zone, date, and time.

**Tip**

QNAP recommends connecting to an NTP server to ensure that the NAS follows the Coordinated Universal Time (UTC) standard.

9. Click **Next**.
10. Select **Obtain an IP address automatically (DHCP)**.
11. Click **Next**.
12. Select the types of devices that you will use to access shared folders on the NAS.
13. Click **Next**.
14. Select **Configure disks later**.

**Note**

For details on configuring disks, see the Storage Manager section of the QTS User Guide.

15. Click **Next**.
16. Select **No**.

**Note**

- Enabling the multimedia functions allows you to install multimedia applications after configuring the disks in Storage Manager.
- For details on enabling multimedia functions on QTS, see the System Administration section of the QTS User Guide.

17. Click **Next**.
18. Review the settings.
19. Click **Apply**.  
A confirmation message appears.

**Warning**

Clicking **Confirm** deletes all data on the drive before installing QTS.

20. Click **Confirm**.

QTS is installed.

## Installing QTS Using the Cloud Key



### Warning

Installing QTS deletes all data on the drives. Back up your data before proceeding.

1. Power on the NAS.
2. Connect the NAS to the internet.
3. Go to the QNAP Cloud Installation page using one of the following methods:
  - On your computer, go to <http://install.qnap.com/>.
  - Scan the QR code on the NAS using a mobile device.

The web page lists all the uninitialized QNAP NAS devices on the local network.

4. Find your NAS from the list and then click **Initialize**.



### Note

If your NAS is not listed, follow the instructions on the web page to specify the Cloud Key on the NAS.

The installation wizard opens in the default web browser.

5. Create an account or sign in to myQNAPcloud.



### Note

You must return to this page to complete the installation after creating an account.

6. Specify the myQNAPcloud device name for the NAS.



### Note

The myQNAPcloud device name is used when remotely accessing the NAS.

7. Optional: Select **CloudLink**.



### Note

- CloudLink allows you to remotely access the NAS without having to configure port forwarding on your router. You can remotely access the NAS by logging into QTS or by using mobile apps.
- You can also enable CloudLink by installing the CloudLink app on the NAS.

8. Click **Next**.  
The **Smart Installation Guide** opens in the default web browser.

9. Click **Start Smart Installation Guide**.

10. Specify the following information.

- **NAS name:** Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.

- **Password:** Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.

11. Click **Next**.

12. Specify the time zone, date, and time.

**Tip**

QNAP recommends connecting to an NTP server to ensure that the NAS follows the Coordinated Universal Time (UTC) standard.

13. Click **Next**.

14. Select **Obtain an IP address automatically (DHCP)**.

15. Click **Next**.

16. Select the types of devices that you will use to access shared folders on the NAS.

17. Click **Next**.

18. Select **Configure disks later**.

**Note**

For details on configuring disks, see the Storage Manager section of the QTS User Guide.

19. Click **Next**.

20. Select **No**.

**Note**

- Enabling the multimedia functions allows you to install multimedia applications after configuring the disks in Storage Manager.
- For details on enabling multimedia functions on QTS, see the System Administration section of the QTS User Guide.

21. Click **Next**.

22. Review the settings.

23. Click **Apply**.

A confirmation message appears.

**Warning**

Clicking **Confirm** deletes all data on the drive before installing QTS.


24. Click **Confirm**.

QTS is installed.

## 4. Basic Operations

This chapter describes basic NAS operations.

### Power Button

Operation	User Action	Result
Power on	Press the button once.	The NAS powers on.
Power off	Press and hold the button for 1.5 seconds.	The NAS powers off.
Force power off	Press and hold the button for 5 seconds.	The NAS shuts down.   <b>Important</b> Use this method only when the NAS is unresponsive.

### Reset Button

Operation	User Action	Result
Basic system reset	Press and hold the button for 3 seconds.	The following settings are reset to default: <ul style="list-style-type: none"> <li>• System administrator password: admin</li> <li>• TCP/IP configuration: <ul style="list-style-type: none"> <li>• Obtain IP address settings automatically via DHCP</li> <li>• Disable jumbo frames</li> <li>• If port trunking is enabled (multi-LAN models only), the port trunking mode is reset to "Active Backup (Failover)".</li> </ul> </li> <li>• System port: 8080 (system service port)</li> <li>• Security level: Low (Allow all connections)</li> <li>• LCD panel password: (blank)</li> <li>• VLAN: Disabled</li> </ul>
Advanced system reset	Press and hold the button for 15 seconds.	The default factory settings are restored. <ul style="list-style-type: none"> <li>• To retrieve old data after an advanced system reset, recreate the previous folder structure on the NAS.</li> </ul>

### LEDs

LEDs indicate system status and related information when the NAS is powered on. The following LED information applies only when the drive is correctly installed and when the NAS is connected to the network.

For details on the location of the LEDs, see [Components](#).

LED	Status	Description
System Status	Flashes green and red alternately every 0.5 seconds	<ul style="list-style-type: none"> <li>The drive is being formatted.</li> <li>The NAS is being initialized.</li> <li>The operating system is being updated.</li> <li>RAID rebuilding is in progress.</li> <li>Online RAID Capacity Expansion is in progress.</li> <li>Online RAID Level Migration is in progress.</li> </ul>
	Red	<ul style="list-style-type: none"> <li>The drive is invalid.</li> <li>The disk volume has reached its full capacity.</li> <li>The disk volume is about to reach its full capacity.</li> <li>The system fan is not functioning.</li> <li>An error occurred when accessing (read/write) the data.</li> <li>A bad sector is detected on the hard drive.</li> <li>The NAS is in degraded read-only mode (two member drives failed in RAID 5 or RAID 6 but the data can still be read).</li> <li>Hardware self-test error</li> </ul>
	Flashes red every 0.5 seconds	The NAS is in degraded mode (one member drive failed in RAID 1, RAID 5, or RAID 6).
	Flashes green every 0.5 seconds	<ul style="list-style-type: none"> <li>The NAS is starting up.</li> <li>The NAS is not configured.</li> <li>A drive is not formatted.</li> </ul>
	Flashes green every 2 seconds	The NAS is in S3 sleep mode.
	Green	The NAS is ready.
	Off	All drives are in standby mode.
LAN	Orange	A read/write error occurred while another device is accessing data.
	Flashes orange	The NAS is being accessed from the network.
Drive	Flashes red	The data is being accessed and a read/write error occurs during the process.
	Red	A drive read/write error occurred.
	Flashes green	The data is being accessed.
	Green	The drive can be accessed.

LED	Status	Description
USB	Flashes blue every 0.5 sec	<ul style="list-style-type: none"> <li>• A USB device (connected to the front USB port) is detected.</li> <li>• A USB device (connected to the front USB port) is being removed from the NAS.</li> <li>• A USB device (connected to the front USB port of the NAS) is being accessed.</li> <li>• Data is being copied to or from a USB or eSATA device.</li> </ul>
	Blue	A USB device is detected in the front USB port.
	Off	<ul style="list-style-type: none"> <li>• No USB device is detected.</li> <li>• The NAS has finished copying data to or from the USB device connected to the front USB port.</li> </ul>

## Beep Alarm

Duration	Frequency	Description
Short beep (0.5 seconds)	1	<ul style="list-style-type: none"> <li>• The NAS is starting up.</li> <li>• The NAS is shutting down (software shutdown).</li> <li>• The user pressed the Reset button.</li> <li>• The operating system was updated.</li> </ul>
	3	The user tried to copy the NAS data to the external storage device from the front USB port, but the data cannot be copied.
Long beep (1.5 seconds)	3 (every 5 minutes)	The system fan is not functioning.
	2	<ul style="list-style-type: none"> <li>• The disk volume is about to reach its full capacity.</li> <li>• The disk volume has reached its full capacity.</li> <li>• The drives are in degraded mode.</li> <li>• The user started the drive rebuilding process.</li> <li>• A drive is plugged in or out.</li> </ul>
	1	<ul style="list-style-type: none"> <li>• The NAS was powered off by force shutdown (hardware shutdown).</li> <li>• The NAS was powered on successfully and is ready.</li> </ul>



## 5. Troubleshooting

This chapter describes basic troubleshooting information.

### Forcing Qfinder Pro or myQNAPcloud to Locate the NAS

If Qfinder Pro or myQNAPcloud is unable to locate the NAS during QTS installation, the drives or data may be faulty.

1. Power off the NAS.
2. Remove all drives.
3. Power on the NAS.
4. Locate the NAS using Qfinder Pro or myQNAPcloud.
5. Reinsert the drives.
6. Continue with the QTS installation.

### Hot-swapping Failed Drives

The NAS supports hot-swapping of drives in the following situations:

- RAID 1: One member drive fails
  - RAID 5: One member drive fails
  - RAID 6: One or two member drives fail
1. Log on to QTS.
  2. Go to **Main Menu > Storage Manager > Storage > Disks/VJBOD** .
  3. Locate the failed drive.
  4. Prepare a new hard drive with a capacity that is the same as or larger than the failed hard drive.
  5. Remove the failed drive from the NAS.
  6. Wait for 20 seconds or until the NAS beeps twice.
  7. Remove the failed drive from the drive tray.
  8. Insert the new drive into the drive tray.
  9. Install the new drive.  
The NAS beeps twice.
  10. Go to **Main Menu > Storage Manager > Storage Space** .
  11. Locate the volume that contains the new drive and then verify that the status is `Rebuilding`.

## Recovering Unintentionally Removed Healthy Drives

The NAS supports exclusive RAID recovery technology to recover failed RAID disk volumes from unintentional disconnection or removal of drives. Users can recover an inactive RAID 1, RAID 5, or RAID 6 volume to degraded mode, or an inactive RAID 0 and JBOD configuration to normal.

Disk Volume	RAID Recovery Support	Maximum Number of Removed Drives
Single	No	N/A
JBOD	Yes	1
RAID 0	Yes	1
RAID 1	Yes	1
RAID 5	Yes	2
RAID 6	Yes	3
RAID 10	No	N/A

## Support and Other Resources

QNAP provides the following resources:

Resource	URL
Documentation	<a href="http://docs.qnap.com">http://docs.qnap.com</a>
Helpdesk	<a href="http://helpdesk.qnap.com">http://helpdesk.qnap.com</a>
Downloads	<a href="http://download.qnap.com">http://download.qnap.com</a>
Community Forum	<a href="http://forum.qnap.com">http://forum.qnap.com</a>

## 6. Glossary

### **CloudKey**

Unique 8-digit code assigned to each NAS device

### **CloudLink**

Enables you to access the NAS over the internet without configuring complex port forwarding settings

### **myQNAPcloud**

Provides various remote access services such as DDNS and CloudLink

### **myQNAPcloud ID**

Email address that was used to register for a myQNAPcloud account

### **Qfinder Pro**

Enables you to locate and access the QNAP NAS devices in your local area network

### **QTS**

QNAP NAS operating system

## 7. Notices

This chapter provides information about warranty, disclaimers, licensing, and federal regulations.

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Version 3, 29 June 2007

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## 2. Source Code.

The “source code” for a work means the preferred form of the work for making modifications to it.

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The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

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VCCI-A

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