



**QNAP**

# **TS-x31P3**

**TS-231P3**

**TS-431P3**

**User Guide**

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# 1. Preface





## About This Guide

This guide provides information on the QNAP TS-x31P3 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 tasks or configuring settings.
	Warnings provide information that, when ignored, may result in potential loss, injury, or even death.

## 2. Product Overview


This chapter provides basic information about the QNAP TS-x31P3 NAS.




### About the TS-x31P3


The TS-x31P3 is a user-friendly NAS designed for home and office environments. Equipped with ample storage space and file backup and sharing, the NAS is powered by an Annapurna Labs Alpine AL-314 quad-core 1.7 GHz processor and DDR3L RAM. The TS-x31P3 enables smoother multimedia playback and ensures data security and has various local, remote, and cloud backup options. It is available in 2-drive bay and 4-drive bay models and supports SATA 6 Gbps and is backward compatible with SATA 3 Gbps. The NAS includes a 2.5 Gigabit Ethernet port, Gigabit Ethernet port, and three USB 3.2 Gen 1 ports.

### Hardware Specifications

Ordering P/N	Drive bays	Memory	Power supply
TS-231P3-2G	2	2 GB	Single
TS-231P3-4G	2	4 GB	Single
TS-431P3-2G	4	2 GB	Single
TS-431P3-4G	4	4 GB	Single

Component	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
Processor		
CPU	Annapurna Labs AL-314	
Frequency	Quad-core 1.7 GHz	
Architecture	ARM 32-bit	
Encryption engine	AES-256	
Memory		
Pre-installed memory	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR3L</li> <li>• 4 GB RAM: 1 x 4 GB DDR3L</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR3L</li> <li>• 4 GB RAM: 1 x 4 GB DDR3L</li> </ul>
Memory slots	1 x SODIMM DDR3L	
	<div style="border-left: 2px solid red; padding-left: 10px;"> <p> <b>Important</b></p> <ul style="list-style-type: none"> <li>• Use only QNAP memory modules to maintain system performance and stability. For NAS devices with more than one memory slot, use QNAP modules with identical specifications.</li> <li>• Using unsupported modules may degrade performance, cause errors, or prevent the operating system from starting.</li> </ul> </div>	
Maximum memory	8 GB RAM: 1 x 8 GB	
Flash memory	512 MB (dual-boot OS protection)	
Storage		

Component	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
Drive bays	2 x 3.5-inch SATA 6 Gbps	4 x 3.5-inch SATA 6 Gbps
	 <b>Note</b> The SATA 6 Gbps is backward compatible with the SATA 3 Gbps.	
Drive compatibility	3.5-inch bays: <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>  <b>Tip</b> For the list of compatible drive models, go to <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a> .	
SSD cache acceleration support	3.5-inch drive bays: 1 to 2	3.5-inch drive bays: 1 to 4
Hot-swapping	Supported	
Network		
Gigabit Ethernet ports	1 x GbE RJ45	
2.5 Gigabit Ethernet ports	1 x 2.5 GbE RJ45	
Wake-on-LAN	Yes (GbE RJ45)	
External I/O Ports & Expansion Slots		
USB ports	Front: 1 x USB 3.2 Gen 1 Type-A   <b>Note</b> This USB port supports One Touch Copy.  Rear: 2 x USB 3.2 Gen 1 Type-A	
Interface		
Buttons	<ul style="list-style-type: none"> <li>• Power</li> <li>• Reset</li> <li>• USB One Touch Copy</li> </ul>	
Dimensions		
Form factor	Tower	
Dimensions (H x W x D)	161 x 102 x 219 mm (6.34 x 4.01 x 8.62 in)	161 x 160 x 219 mm (6.34 x 6.30 x 8.62 in)
Net weight	1.35 kg (2.98 lbs)	3 kg (6.61 lbs)
Others		
Power supply unit	90W, 100-240V AC, 50/60 Hz	
System battery	CR2032 lithium battery (3V, 225 mAh)	

Component	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
Sound level	19.2 db(A)	19.5 db(A)
	 <b>Note</b> The sound level was tested at a bystander position, which is within one meter of the NAS. The test NAS operated at low speed with the maximum number of drives installed.	
Fans	System: 1 x 70 mm, 12V DC fan	System: 1 x 120 mm, 12V DC fan
Operating temperature	0°C to 40°C (32°F 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>	
Security slot	Kensington security slot	


**Tip**

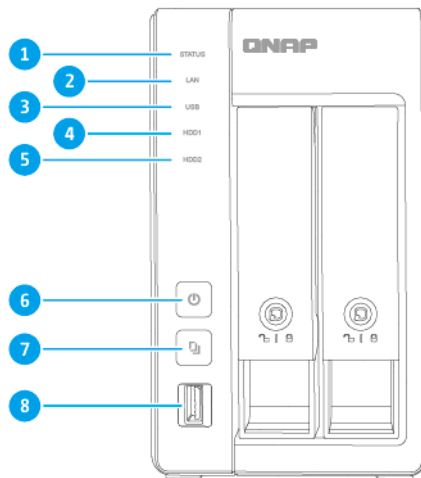
Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

## Package Contents

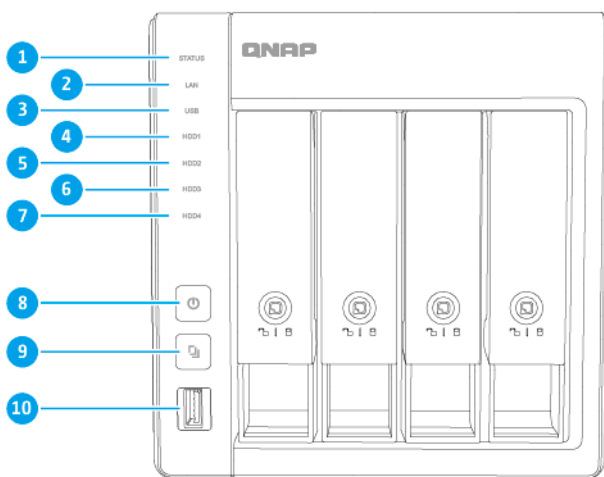
Item	Quantity
TS-x31P3	1
AC power adapter	1
Power cord	1
Ethernet cable	1 x Cat5e
Drive tray keys	2
Screws for 3.5-inch drives	<ul style="list-style-type: none"> <li>• TS-231P3: 8</li> <li>• TS-431P3: 16</li> </ul>
Screws for 2.5-inch drives	<ul style="list-style-type: none"> <li>• TS-231P3: 6</li> <li>• TS-431P3: 12</li> </ul>
Quick Installation Guide (QIG)	1

## Components

## Front Panel



No.	Component	No.	Component
1	Status LED	5	Drive 2 LED
2	LAN LED	6	Power button
3	USB LED	7	USB One Touch Copy button
4	Drive 1 LED	8	USB 3.2 Gen 1 One Touch Copy Type-A port

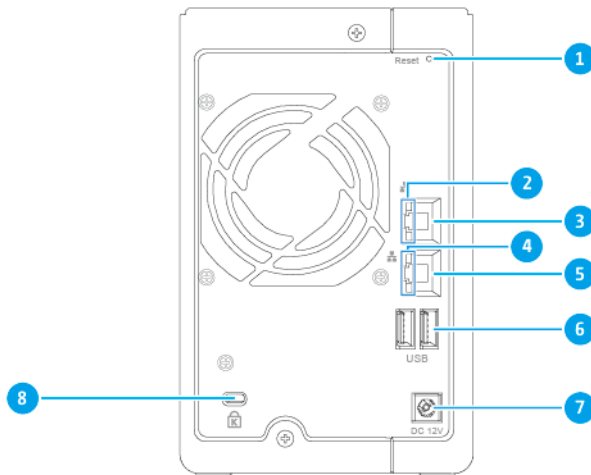


No.	Component	No.	Component
1	Status LED	6	Drive 3 LED
2	LAN LED	7	Drive 4 LED



No.	Component	No.	Component
3	USB LED	8	Power button
4	Drive 1 LED	9	USB One Touch Copy button
5	Drive 2 LED	10	USB 3.2 Gen 1 One Touch Copy Type-A port

## Rear Panel

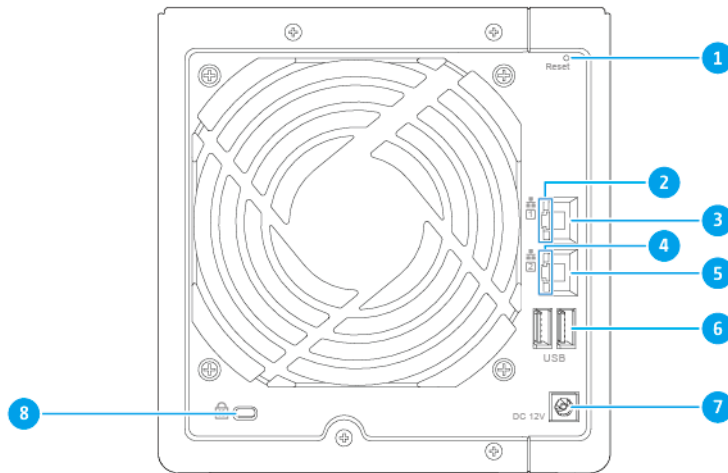


No.	Component	No.	Component
1	Reset button	5	Gigabit Ethernet port
2	2.5 Gigabit Ethernet LEDs	6	USB 3.2 Gen 1 Type-A ports
3	2.5 Gigabit Ethernet port (RJ45)	7	Power port
4	Gigabit Ethernet LEDs	8	Kensington security slot



**Note**

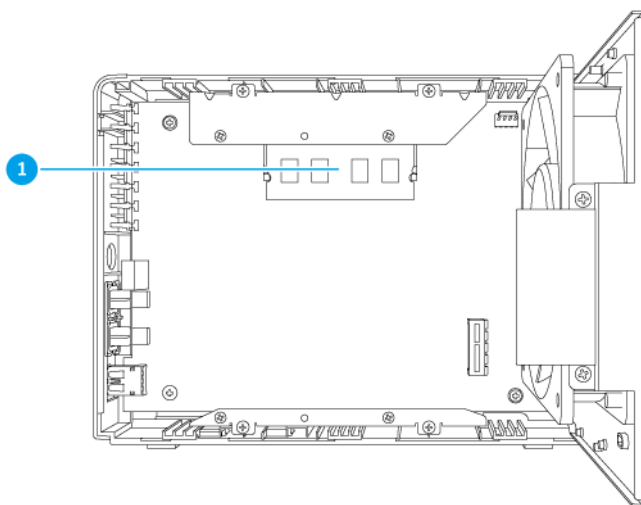
Only this port supports Wake-on-LAN configurations.



No.	Component	No.	Component
1	Reset button	5	Gigabit Ethernet port
2	2.5 Gigabit Ethernet LEDs	6	USB 3.2 Gen 1 Type-A ports
3	2.5 Gigabit Ethernet port (RJ45)	7	Power port
4	Gigabit Ethernet LEDs	8	Kensington security slot

**Note**  
Only this port supports Wake-on-LAN configurations.

## System Board



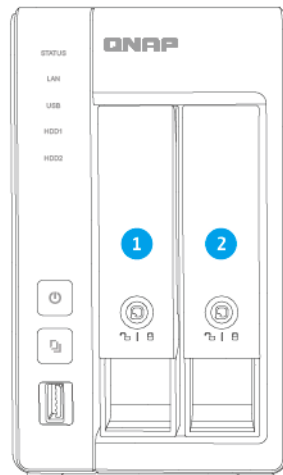
**TS-431P3**



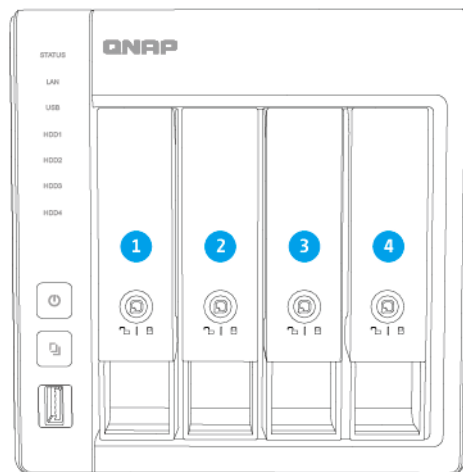
**Note**  
The image does not include the chassis.

No.	Component	No.	Component
1	Memory slot	-	-

## Drive Numbering



### TS-231P3



### TS-431P3

## Safety Information

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

## General Instructions

- The NAS 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 NAS.
- 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

- 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.

## Installation Requirements

Category	Item
Environment	<ul style="list-style-type: none"> <li>• Room temperature: 0°C to 40°C (32°F 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 without exposure to direct sunlight, liquids, or chemicals</li> <li>• Free from objects that may obstruct NAS ventilation or apply pressure to the NAS or power cord</li> </ul>
Hardware and peripherals	<ul style="list-style-type: none"> <li>• Storage drives</li> </ul> <div style="display: flex; align-items: center;">  <div> <p><b>Tip</b></p> <p>For the list of compatible expansion cards, go to <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a>.</p> </div> </div> <ul style="list-style-type: none"> <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 drives.  
For details, see the following:
  - [Installing 3.5-inch Hard Drives on 3.5-inch Trays](#)
  - [Installing 2.5-inch Hard Drives or Solid-State Drives on 3.5-inch Trays](#)
3. Connect the power cord and all applicable cables.
4. Power on the NAS.
5. Install QTS.  
For details, see [QTS Installation](#)
6. 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.

#### Installing Drives

The TS-x31P3 is compatible with 3.5-inch hard drives, 2.5-inch hard drives, and 2.5-inch solid-state drives. All drive bays support SSD cache acceleration.

#### Installing 3.5-inch Hard Drives on 3.5-inch Trays



##### Warning

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

•



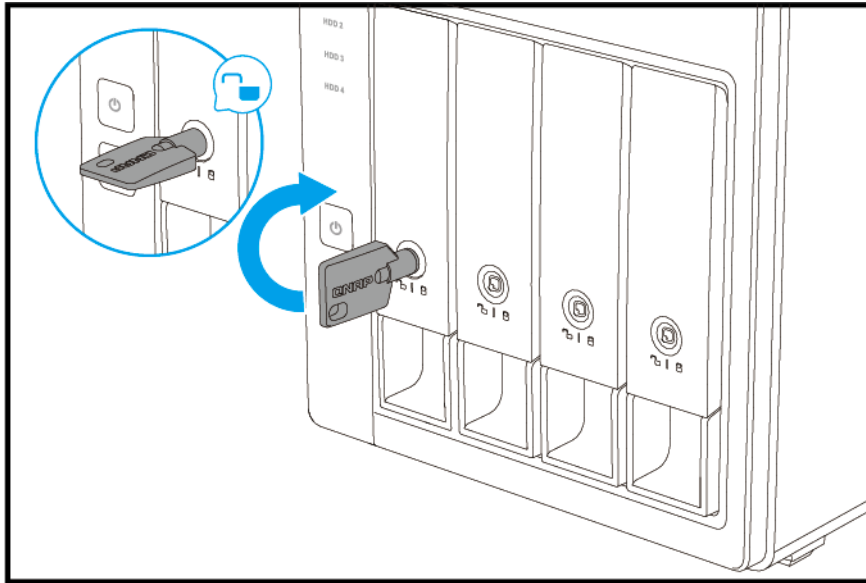
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

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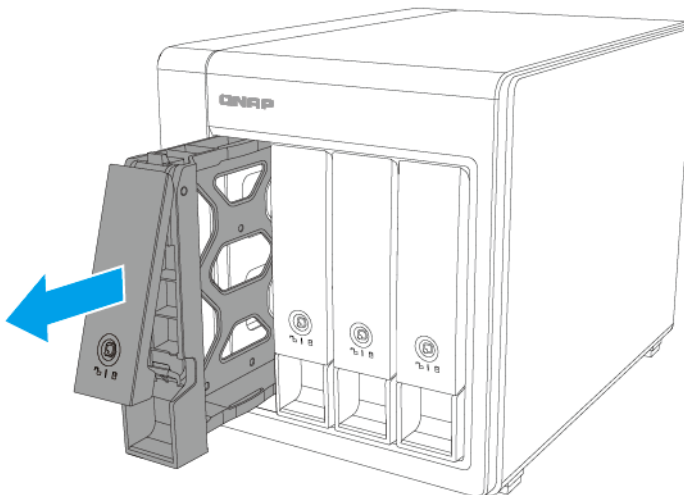
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.
2. Remove the drive tray.
  - a. Optional: Unlock the tray.

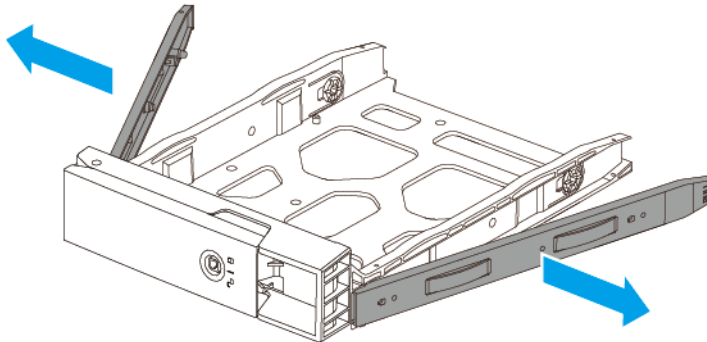
**Note**

The preinstalled drive trays come unlocked.

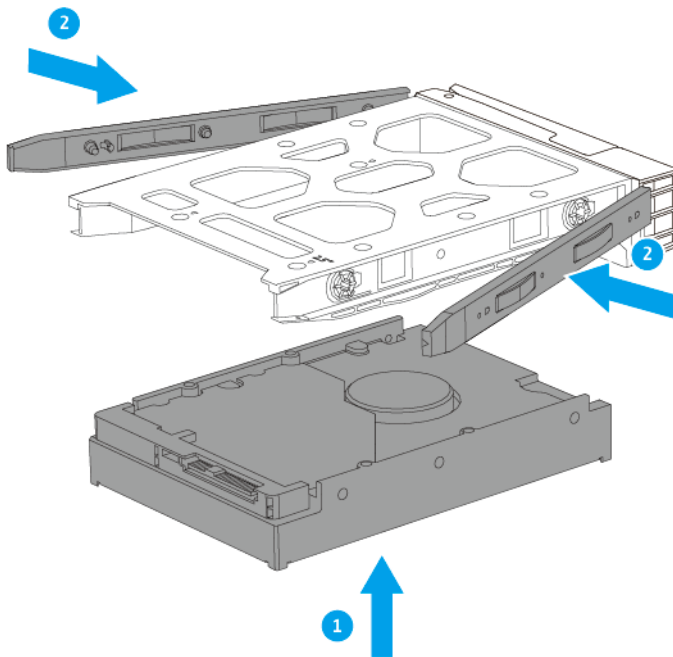
- b. Pull the handle to release the tray.
- c. Pull the tray out.

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

- a. Remove the fastening panels from the sides of the drive tray.

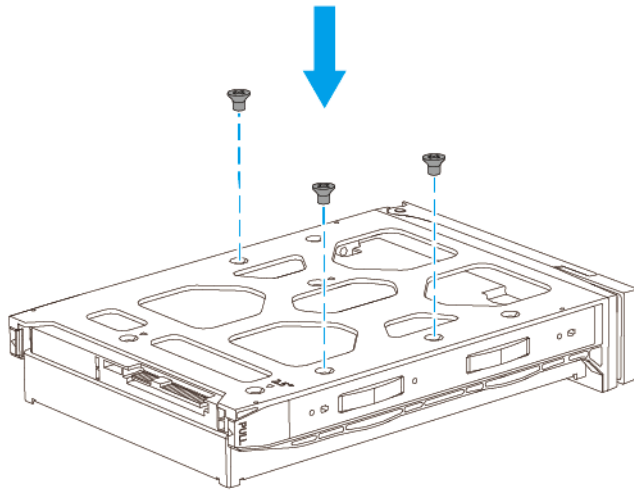


- b.** Place the drive on the tray so that the holes on the sides of the drive are aligned with the holes on the sides of the tray.
- c.** Attach the fastening panels to lock the drive to the tray.

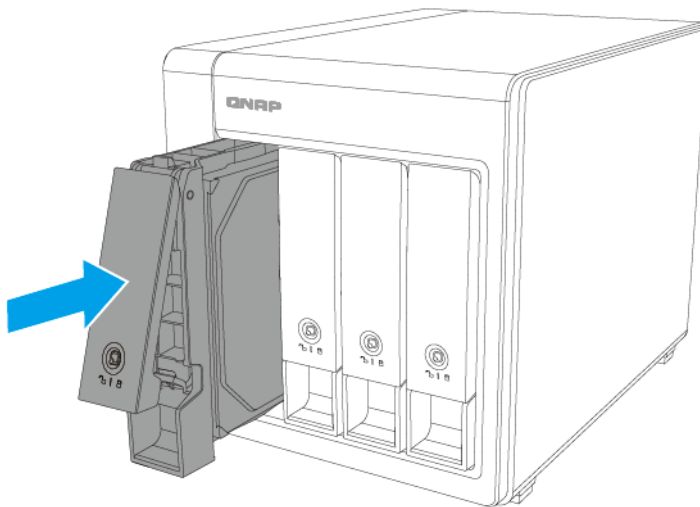


- d.** Attach the screws to further secure the drive.

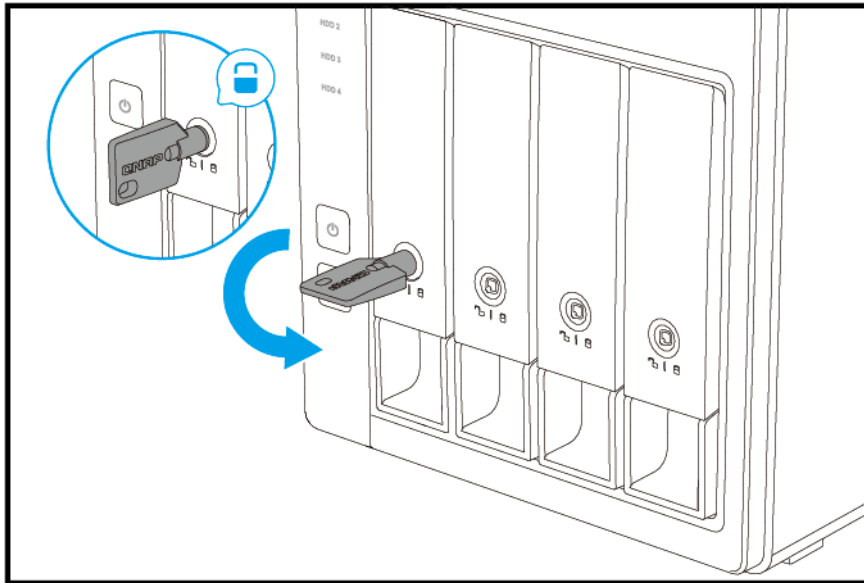




- 4.** Load the tray into the bay.
  - a.** Insert the tray into the bay.
  - b.** Push the handle.



- c.** Lock the tray.



5. Power on the NAS.

### Installing 2.5-inch Hard Drives or Solid-State Drives on 3.5-inch Trays



#### Warning

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

- 



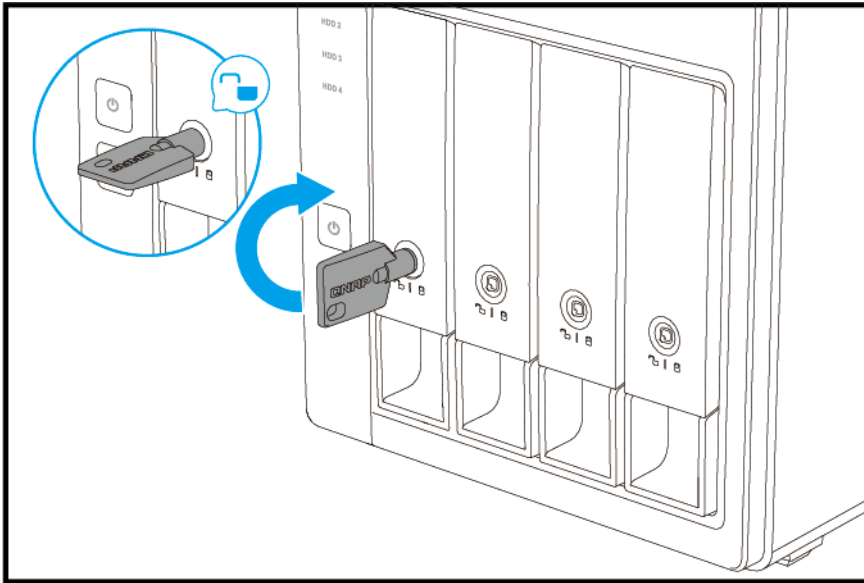
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

- 



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

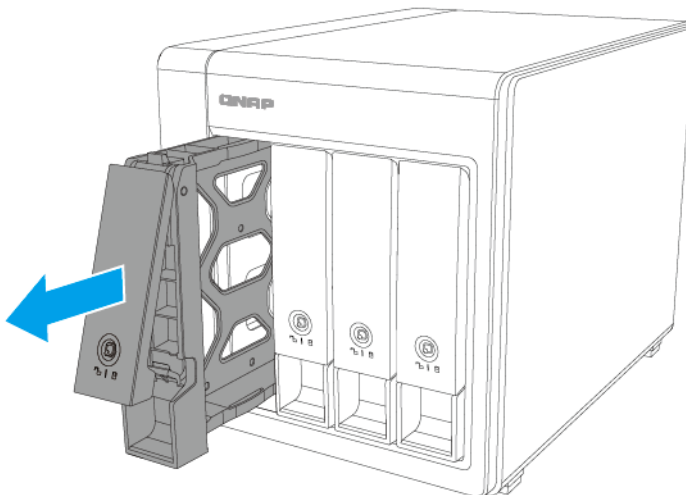
1. Power off the NAS.
2. Remove the drive tray.
  - a. Optional: Unlock the tray.



**Note**

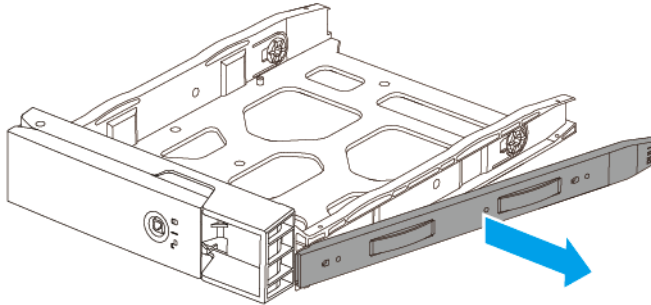
The preinstalled drive trays come unlocked.

- b. Pull the handle to release the tray.
- c. Pull the tray out.

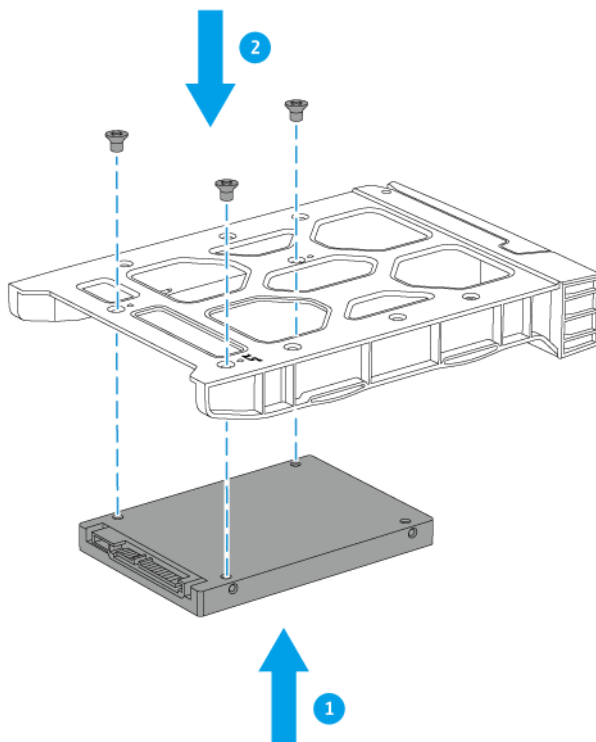


**3. Install a drive on the tray.**

- a. Remove the right fastening panel from the drive tray.

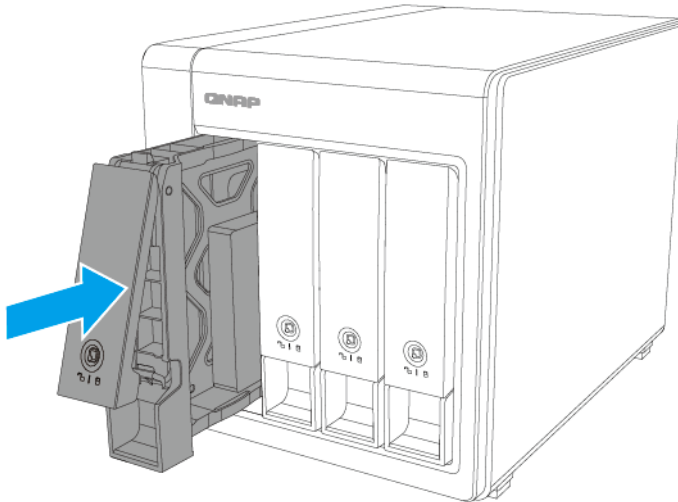


- b.** Place the drive on the tray so that the holes on the sides of the drive are aligned with the holes on the sides of the tray.
- c.** Attach the screws.

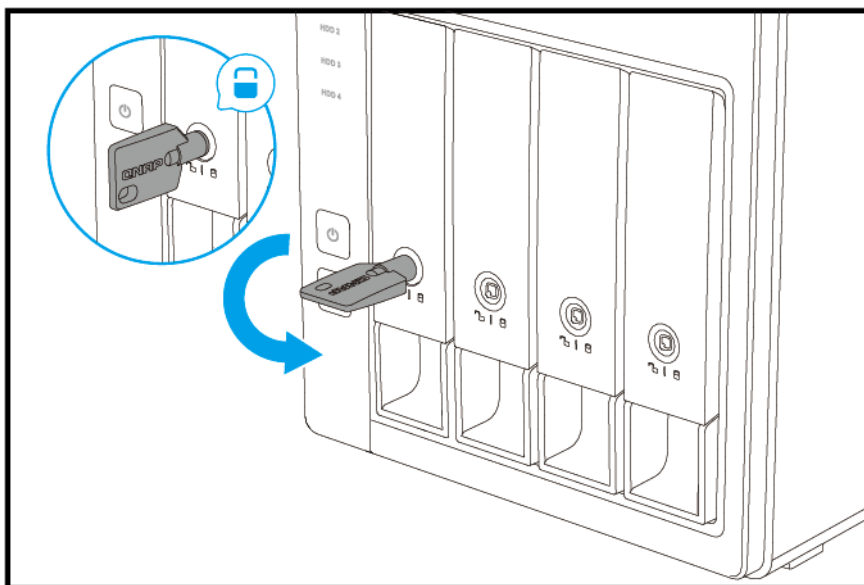


- 4.** Load the tray into the bay.
  - a.** Insert the tray into the bay.

- b. Push the handle.



- c. Lock the tray.



5. Power on the NAS.

## Replacing Memory Modules

The NAS has one memory slot. You can increase the memory capacity of the NAS by upgrading the memory module.

Use only QNAP memory modules to maintain system performance and stability. You can purchase QNAP memory modules from authorized resellers.



**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.



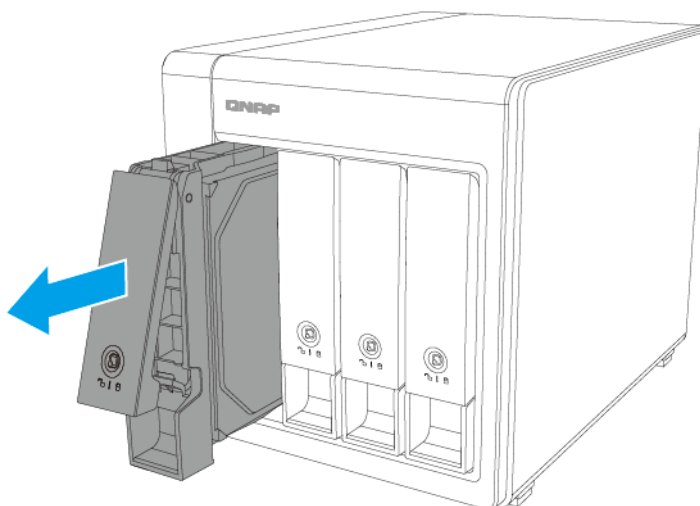
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the drive tray.
  - a. Pull the handle to release the tray.
  - b. Pull the tray out.



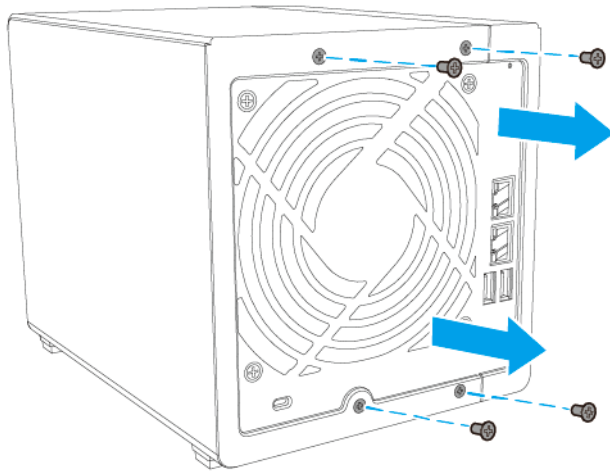
**Important**

Remember the number of each drive. The drive trays will need to be returned to their original bays.



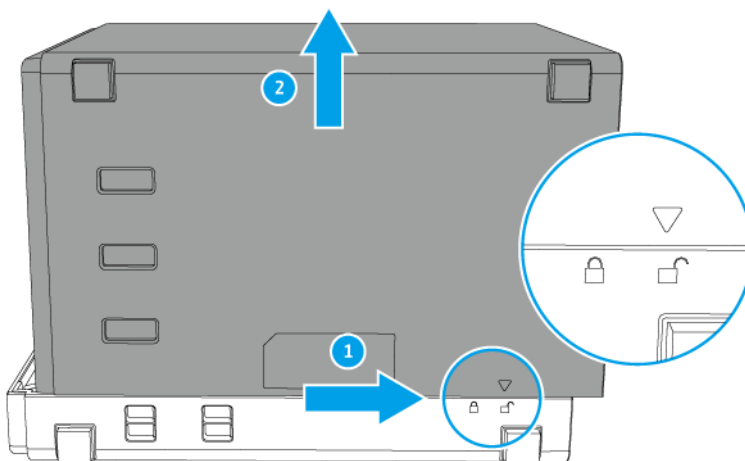
5. Remove the case cover.

- a. Remove the screws that secure the case cover to the chassis.

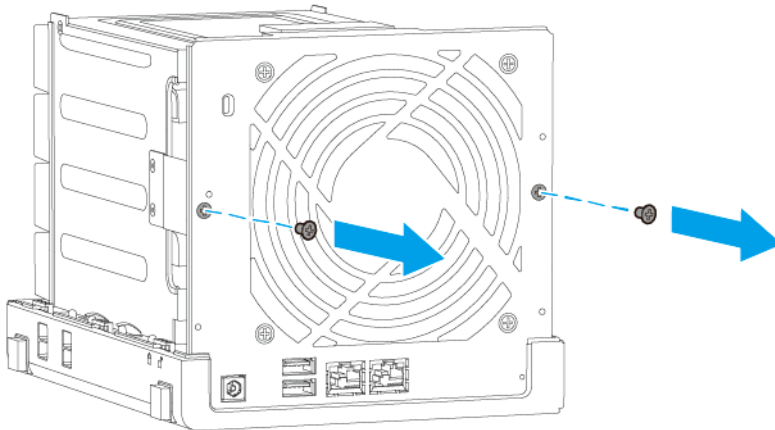

**Tip**

The screws for the case cover are longer than those for other parts of the NAS.

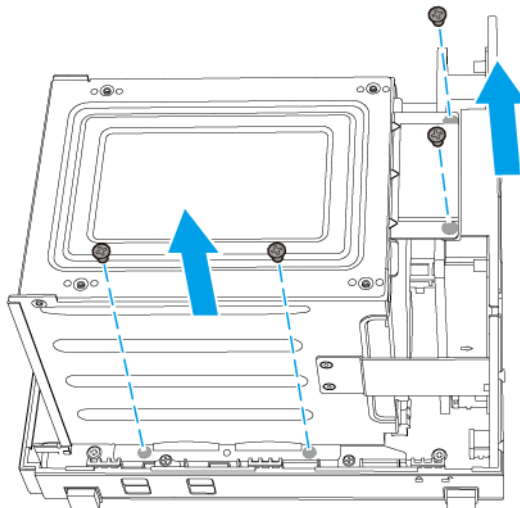
- b. Place the NAS on its right side.
- c. Slide the case cover to the right so that the triangle icon is aligned with the unlock icon.
- d. Pull the case cover up until it completely detaches from the chassis.



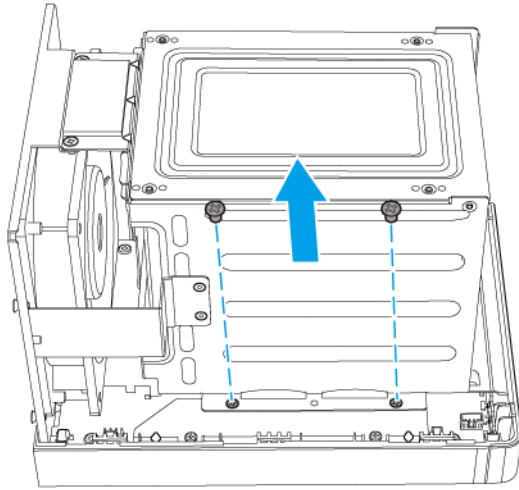
6. Remove the screws that secure the drive bay chassis to the back side of the NAS.



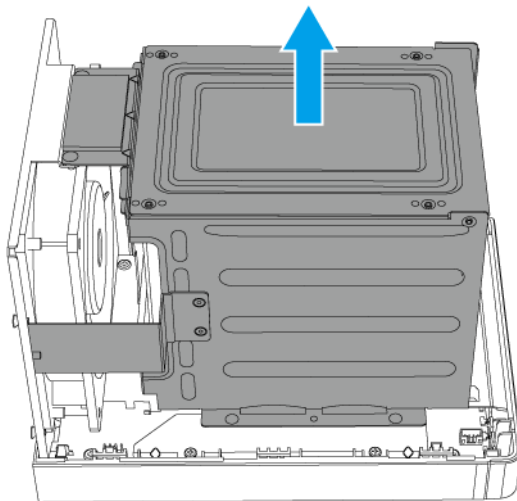
7. Remove the 6 screws that secure the drive tray chassis to the NAS.



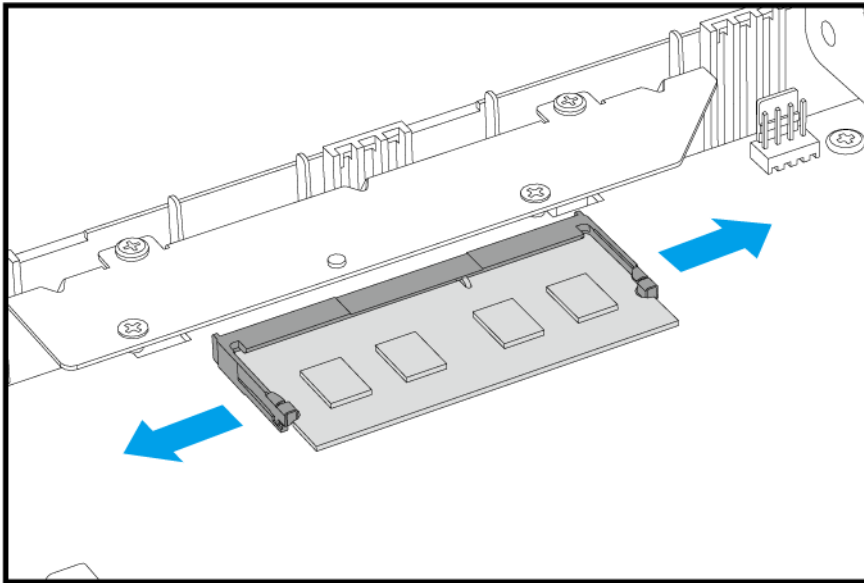




8. Carefully pull the drive tray chassis up until it completely detaches from the NAS.



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



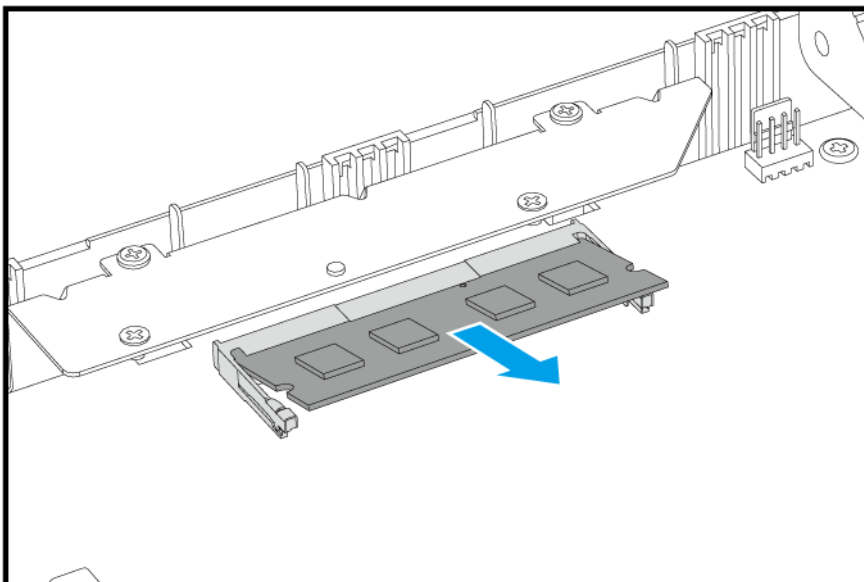
- b. Verify that the module has tilted upward and is completely released from the slot.



**Warning**

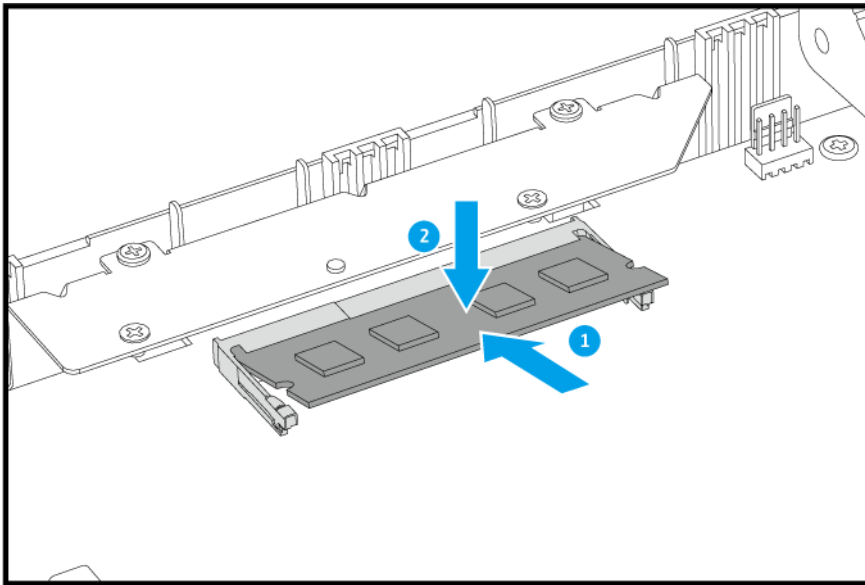
Attempting to remove a module that is not completely released may damage the module and the motherboard.

- c. Hold the module by the edges.
- d. Carefully slide the module out of the slot.



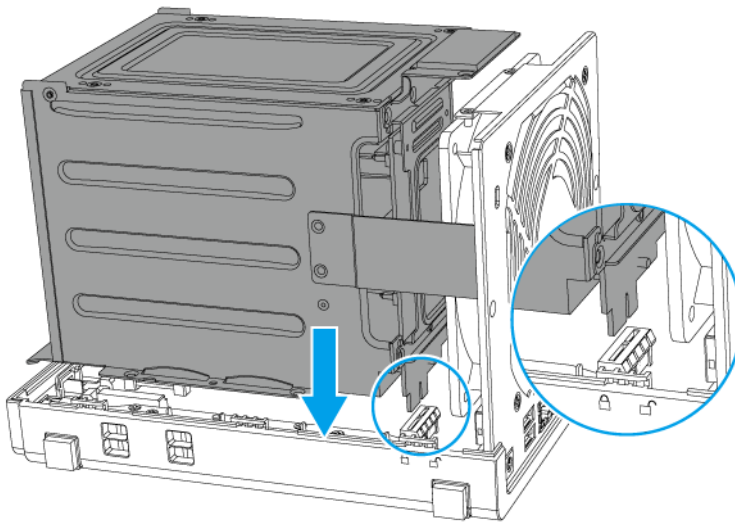
10. Install a new module.
  - a. Align the notch with the ridge in the slot.
  - b. Insert the module into the slot.

- c. 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.

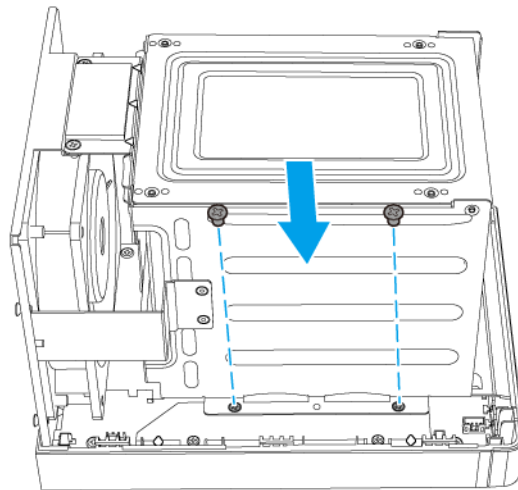
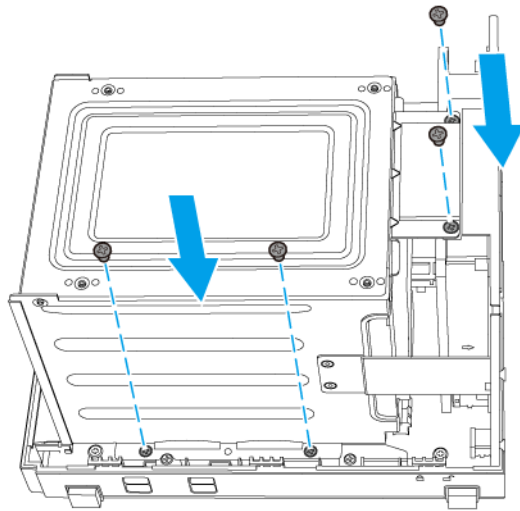


**11.** Place the drive tray chassis onto the NAS.

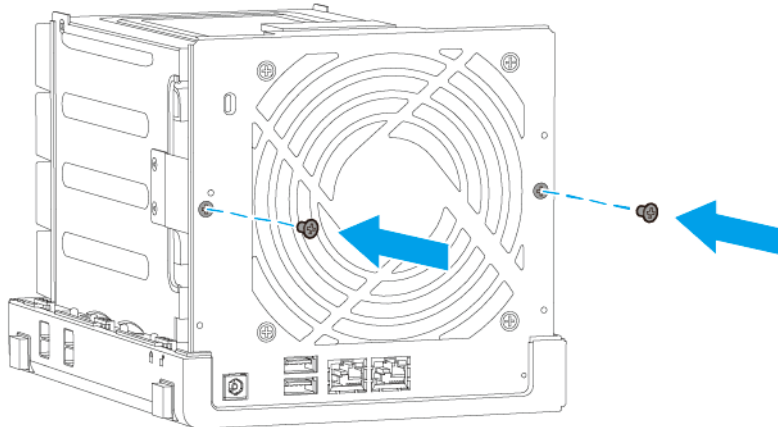
- a. Line up the SATA connector on the drive tray chassis to the SATA socket on the motherboard.
- b. Carefully insert the SATA connector into the SATA socket.



**12.** Attach the screws that secure the drive tray chassis to the NAS.

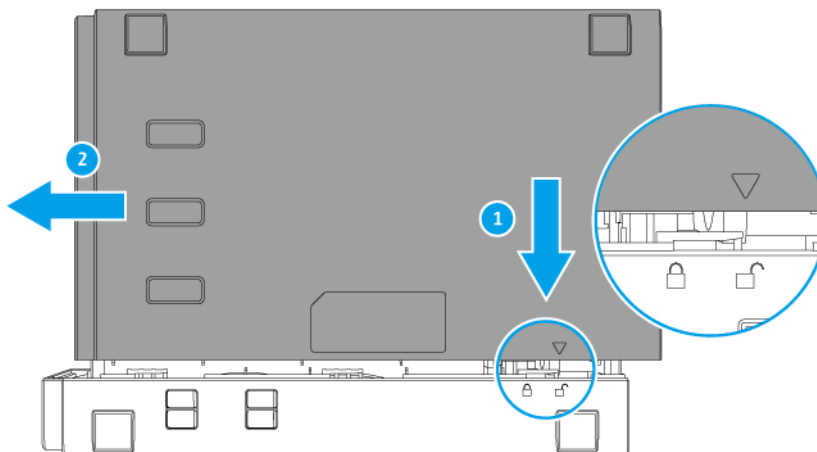


13. Attach the screws that secure the drive tray chasis to the back side of the NAS.

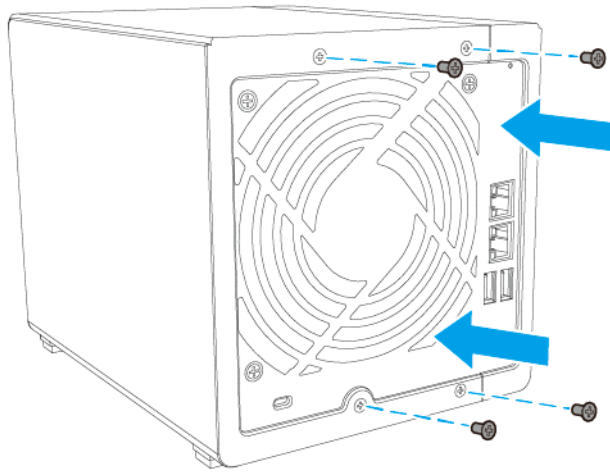


**14. Attach the case cover.**

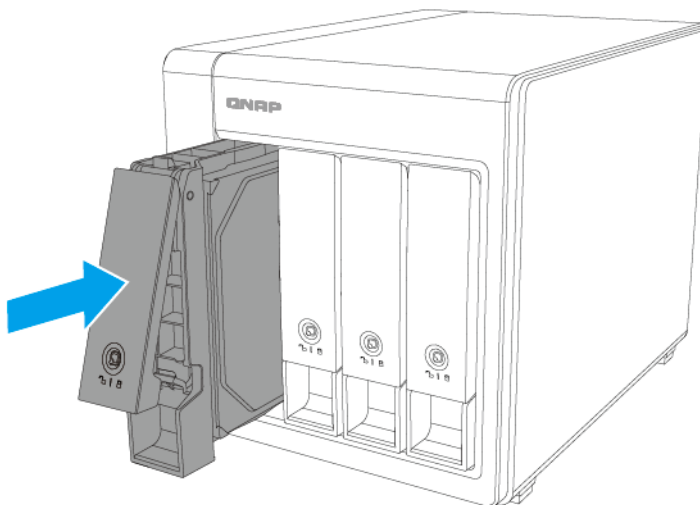
- a. Align the triangle icon on the case cover with the unlock icon on the chassis.
- b. Slide the case cover onto the chassis.
- c. Slide the case cover to the left so that the triangle icon is aligned with the lock icon.



- d. Place the NAS on its bottom side.
- e. Attach the screws that secure the case cover to the chassis.



15. Return the drive trays to their original drive bays.
  - a. Insert the tray into the bay.
  - b. Push the handle until it is locked into place.



16. Connect all cables and external attachments.
17. Power on the NAS.
18. 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**.

## Connecting USB Expansion Units

The TS-x31P3 supports USB expansion units. To connect the TS-x31P3 to USB expansion units, USB Type-C to USB Type-A cables are required.



### Note

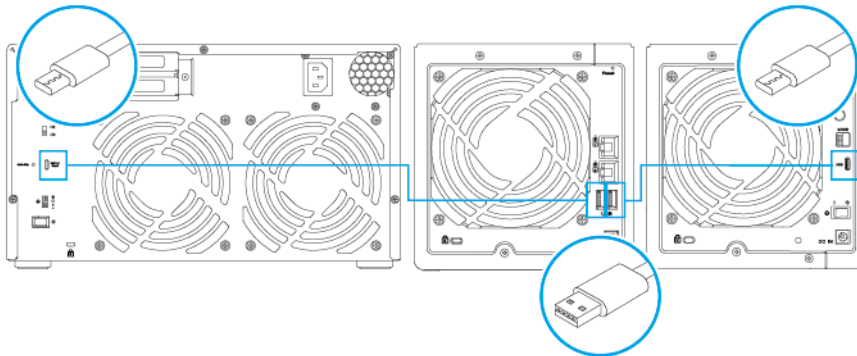
For details about USB expansion units compatibility, see <https://www.qnap.com/en/compatibility-expansion/>.

You can purchase storage expansion accessories from QNAP or an authorized reseller.

For details, go to <https://shop.qnap.com/>.

Expansion Unit Model	Description	Required Accessories
TR-002	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	USB 3.2 Gen 2 Type-C to Type-A cable
TR-004	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 1 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	USB 3.2 Gen 1 Type-C to Type-A
TR-004U	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 1 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 1 Type-C to Type-A cable</li> <li>• RAIL-B02</li> </ul>
TL-D800C	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 2 Type-C to Type-A cable</li> </ul>
TL-R1200C-RP	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 2 Type-C to Type-A cable</li> <li>• RAIL-B02</li> </ul>

1. Connect the expansion unit to the NAS.
  - a. Connect the USB cable to the USB Type-C port on the expansion unit.
  - b. Connect the USB cable to a USB 3.2 Gen 1 Type-A port on the NAS.



2. Power on the expansion units.
3. Verify that the expansion units are recognized by the NAS.
  - a. Log on to QTS as administrator.
  - b. Go to **Main Menu > Storage & Snapshots > Overview > System** .
  - c. Verify that the expansion units are listed.

## QTS Installation

Method	Description	Requirements
Qfinder Pro installation (Recommended)	<p>If the NAS is connected to your local area network, you can do the following:</p> <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>



Method	Description	Requirements
Cloud installation	<p>If the NAS is connected to the internet, you can do the following:</p> <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 myQNAPcloud Link to remotely access your NAS. Complete the steps in the Smart Installation Guide wizard.</li> </ul> <p>For details, see <a href="#">Installing QTS Using the Cloud Key</a>.</p>	<ul style="list-style-type: none"> <li>• Computer or mobile device</li> <li>• myQNAPcloud account</li> <li>• Cloud Key</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.
5. Perform any of the following actions.
  - To check for the latest available version, click **Start**.  
The wizard downloads the latest available version, and then the NAS restarts after the download is complete. If a newer version is not available, the wizard automatically displays the **Smart Installation Guide**.
  - To install the out-of-the-box version, click **Skip**.
6. Click **Start Smart Installation Guide**.
7. 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.
8. Click **Next**.
9. 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.

10. Click **Next**.
11. Select **Obtain an IP address automatically (DHCP)**.
12. Click **Next**.
13. Select the types of devices that you will use to access shared folders on the NAS.
14. Click **Next**.
15. Review the settings.
16. Click **Apply**.  
A confirmation message appears.

**Warning**

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

17. 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.
- For security purposes, the myQNAPcloud Link remote connection service will be disabled on your NAS after initialization. You can enable it by connecting to QTS through LAN and then installing myQNAPcloud Link.

7. Click **Next**.

8. Perform any of the following actions.

- To check for the latest available version, click **Start**.  
The wizard downloads the latest available version, and then the NAS restarts after the download is complete. If a newer version is not available, the wizard automatically displays the **Smart Installation Guide**.
- To install the out-of-the-box version, click **Skip**.

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. 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.


## 4. Basic Operations

This chapter describes basic NAS operations.

### Power Button

Operation	User Action	Result
Power on	Press the button once.	The device powers on.
Power off	Press and hold the button for 5 seconds.	The device powers off.
Force power off	Press and hold the button for 10 seconds.	The device powers off.   <b>Important</b> Use this method only when the device is unresponsive.

### Reset Button

Operation	User Action	Result
Basic system reset	Press and hold the button for 3 seconds.	<p>The following settings are reset to default:</p> <ul style="list-style-type: none"> <li>System administrator password: MAC address of adapter 1 without special characters. For example, if the MAC address of adapter 1 is 11:22:33:44:55:66, then the admin password will be 112233445566.</li> </ul> <p> <b>Tip</b> You can find the MAC address of adapter 1 using Qfinder Pro. A label attached to the device also lists the address as MAC1.</p> <ul style="list-style-type: none"> <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.	<p>The default factory settings are restored.</p> <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>

## USB One Touch Copy Button

The USB One Touch Copy button allows you to copy data backups from a USB device to the NAS or from the NAS to a USB device.

This feature supports incremental backups. The NAS only copies files that were modified or added after the last backup.

## 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 [Front Panel](#).

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>• A hardware self-test error occurred.</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 red once	The NAS has received a command from a remote control.
	Flashes orange	The NAS is in sleep mode (S3).
	Green	The NAS is ready.
	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>
	Off	All drives are in standby mode.

LED	Status	Description
LAN	Orange	A read/write error occurred while another device is accessing data.
	Flashes orange	The device is being accessed from the network.
2.5 Gigabit Ethernet speed	Green	The network connection is operating at 2.5 Gbps.
	Orange	The network connection is operating at 1 Gbps.
	Off	<ul style="list-style-type: none"> <li>The network connection is operating at 100 Mbps.</li> <li>There is no network connection.</li> </ul>
2.5 Gigabit Ethernet activity	Orange	A network connection has been established.
	Flashes orange	The NAS is being accessed from the network.
	Off	<ul style="list-style-type: none"> <li>The network connection is operating at 100 Mbps.</li> <li>There is no network connection.</li> </ul>
1 Gigabit Ethernet speed	Green	The network connection is operating at 1 Gbps.
	Orange	The network connection is operating at 100 Mbps.
	Off	<ul style="list-style-type: none"> <li>The network connection is operating at 10 Mbps.</li> <li>There is no network connection.</li> </ul>
1 Gigabit Ethernet activity	Green	A network connection has been established.
	Flashes green	The NAS is being accessed from the network.
	Off	<ul style="list-style-type: none"> <li>The network connection is operating at 10 Mbps.</li> <li>There is no network connection.</li> </ul>
Drive	Flashes red 5 times per second	The drive is being located in the operating system.
	Red	A drive read/write error has occurred.
	Flashes green	The data is being accessed.
	Green	The drive can be accessed.

LED	Status	Description
USB - One Touch Copy	Flashes blue 2 times per second	<ul style="list-style-type: none"> <li>• A USB external storage device connected to the USB One Touch Copy port is being mounted.</li> <li>• A USB external storage device connected to the USB One Touch Copy port is being disconnected.</li> <li>• A USB external storage device connected to the USB One Touch Copy port is being accessed.</li> </ul>
	Blue	A USB external storage device has been mounted successfully on the USB One-Touch Copy port.
	Off	No USB external storage device is connected.
USB	Blue	A USB device is being detected in the front USB port.
	Off	No USB device is detected.

## Audio Alert

Duration	Frequency	Description
Short beep (0.5 seconds)	1	<ul style="list-style-type: none"> <li>• The NAS is starting up.</li> <li>• When the reset button is pressed for 3 seconds, the NAS resets configurations.</li> <li>• When the reset button is pressed for 15 seconds, the NAS resets configurations and reboots.</li> <li>• The operating system was updated.</li> </ul>
	3	The NAS data cannot be copied to the external storage device connected to the front USB port.



Duration	Frequency	Description
Long beep (1.5 seconds)	3 (every 5 minutes)	<ul style="list-style-type: none"> <li>• The system fan is not functioning.</li> <li>• The fan module has been removed.</li> </ul>
	2	<ul style="list-style-type: none"> <li>• The NAS was powered off by force shutdown (hardware shutdown).</li> <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 drive is rebuilding.</li> <li>• A drive is plugged in or out.</li> </ul>
	1	<ul style="list-style-type: none"> <li>• The NAS is powering off.</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 & Snapshots > 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 & Snapshots > 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.



### Note

The TS-231P3 only supports single, JBOD, RAID 0, and RAID 1 configuration.

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="https://docs.qnap.com">https://docs.qnap.com</a>
Service Portal	<a href="https://service.qnap.com">https://service.qnap.com</a>
Downloads	<a href="https://download.qnap.com">https://download.qnap.com</a>
Community Forum	<a href="https://forum.qnap.com">https://forum.qnap.com</a>

## 6. Glossary

### **Cloud Key**

Unique 8-digit code assigned to each NAS device

### **myQNAPcloud Link**

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 myQNAPcloud Link

### **myQNAPcloud ID**

Email address that was used to register for a myQNAPcloud account

### **Qfinder Pro**

QNAP utility that lets you locate and access QNAP NAS devices in your local area network

### **QTS**

QNAP NAS operating system

## 7. Notices

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- a. The work must carry prominent notices stating that you modified it, and giving a relevant date.
- b. The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".
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A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

#### 7. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- a. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- b. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- c. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place



at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

- e. Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

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"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

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END OF TERMS AND CONDITIONS

## CE Notice



This QNAP NAS complies with CE Compliance Class B.

## UKCA Notice



This device complies with the UKCA requirements for products sold in Great Britain.

## FCC Notice

### FCC Class B Notice



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.
2. This device must accept any interference received, including interference that may cause undesired operation.



### Note

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/television technician for help.



### Important

Any modifications made to this device that are not approved by QNAP Systems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

## VCCI Notice



VCCI-B

## BSMI Notice



R33B77  
RoHS

## SJ/T 11364-2006



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金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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