



**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 synchronization and remote access. The NAS is powered by an Annapurna Labs Alpine AL-314 dual-core processor and DDR3L RAM. Available in either 2-drive bay or 4-drive bay models, the TS-x31P3 supports SATA 6 Gbps and also backward compatible with SATA 3 Gbps. The TS-x31P3 includes 3 USB 3.2 Gen 1 ports and two gigabit LAN 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	Dual-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 DDR3</li> <li>• 4 GB RAM: 1 x 4 GB DDR3</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR3</li> <li>• 4 GB RAM: 1 x 4 GB DDR3</li> </ul>
Memory slots	1 x SODIMM DDR3L   <b>Important</b> <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>	
Maximum memory	8 GB RAM: 1 x 8 GB	
Flash memory	512 MB (dual-boot OS protection)	
Storage		
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.	

Component	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
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	
External I/O Ports & Expansion Slots		
USB ports	Front: 1 x USB 3.0 Type-A   <b>Note</b> This USB port supports One Touch Copy.  Rear: 2 x USB 3.0 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)	
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 120 mm, 12V DC fan	
Operating temperature	0°C to 40°C (32°F to 104°F)	

Component	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
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**

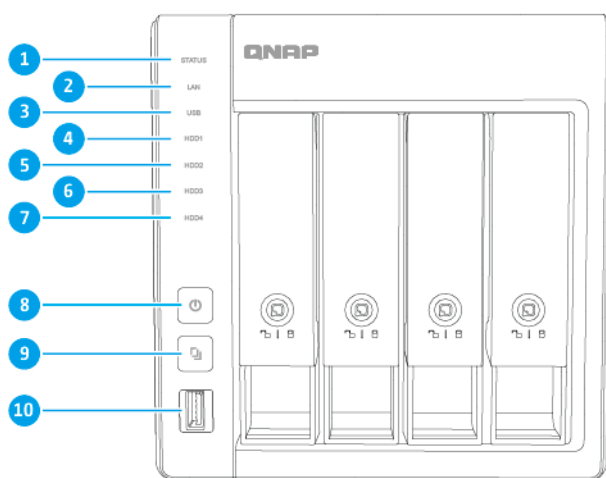
Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

## Package Contents

Item	Quantity
TS-x31P3	1
AC power adapter	1
Power cord	1
Ethernet cables	2 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

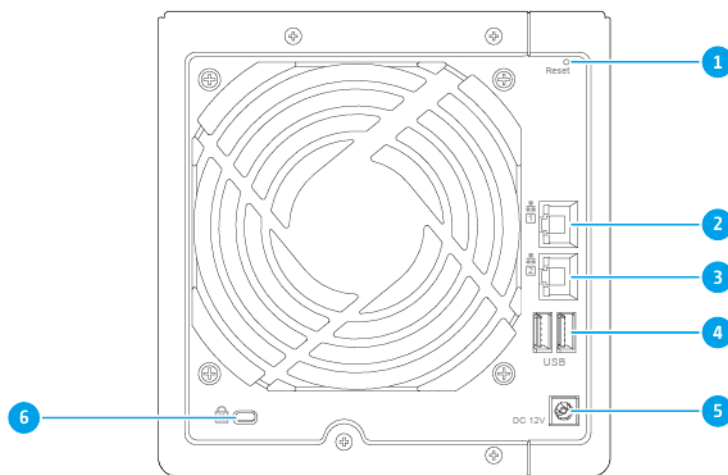
## Components

### Front Panel



No.	Component	No.	Component
1	Status LED	6	Drive 3 LED
2	LAN LED	7	Drive 4 LED
3	USB LED	8	Power button
4	Drive 1 LED	9	USB One Touch Copy button
5	Drive 2 LED	10	USB 3.0 One Touch Copy Type-A port

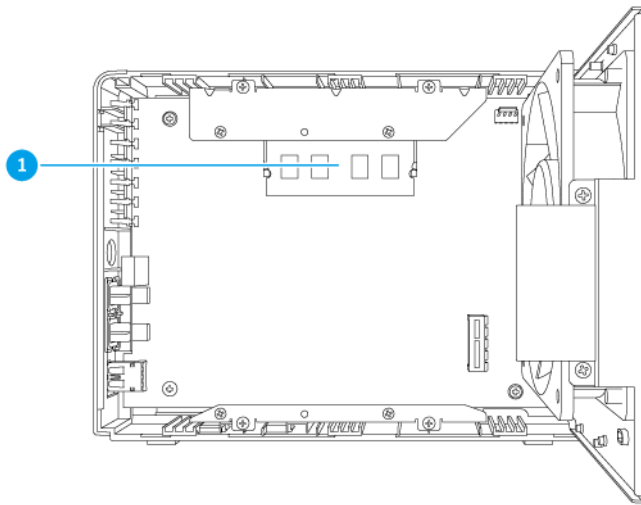
## Rear Panel



No.	Component	No.	Component
1	Reset button	4	USB 3.0 Type-A ports
2	2.5 Gigabit Ethernet port	5	Power input
3	Gigabit Ethernet port	6	Kensington security slot



## System Board



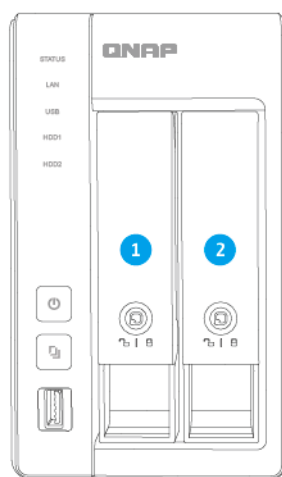
### TS-431P3



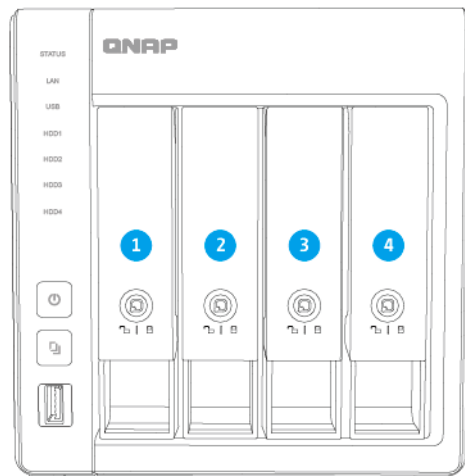
**Note**  
The image does not include the chassis.

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.



The device 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.

#### 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> <p> <b>Tip</b> For the list of compatible expansion cards, go to <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a>.</p> <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 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.
- 



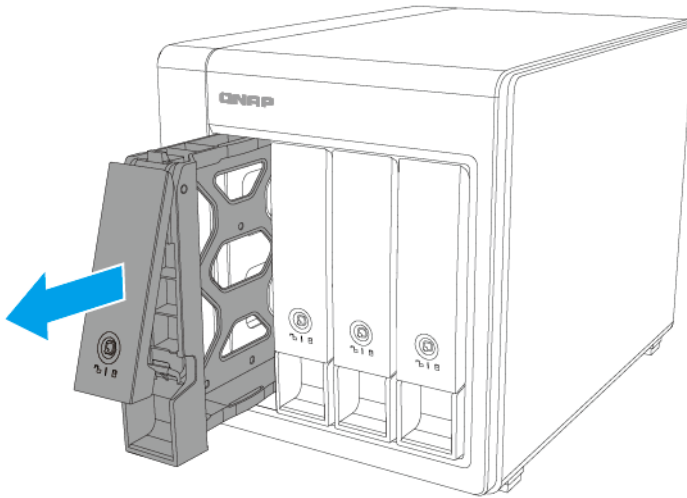
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

- 



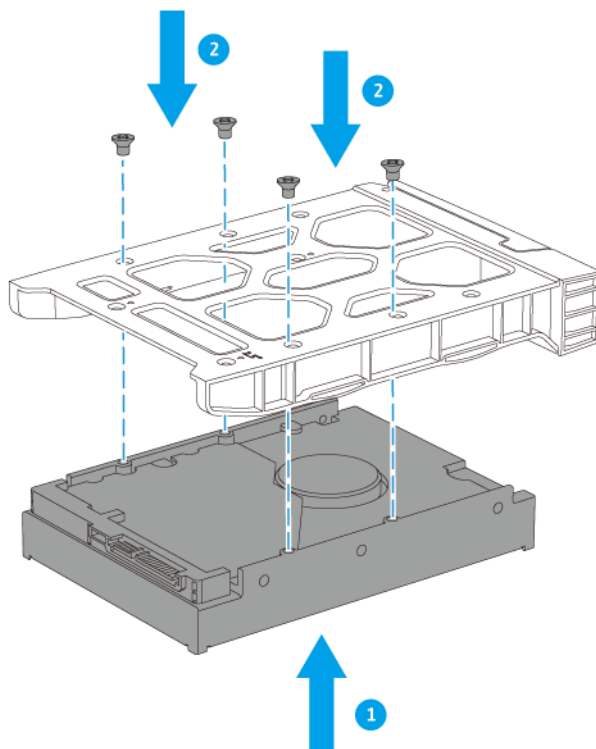
**Other moving components:** Keep your hands and other body parts away from other moving components.

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



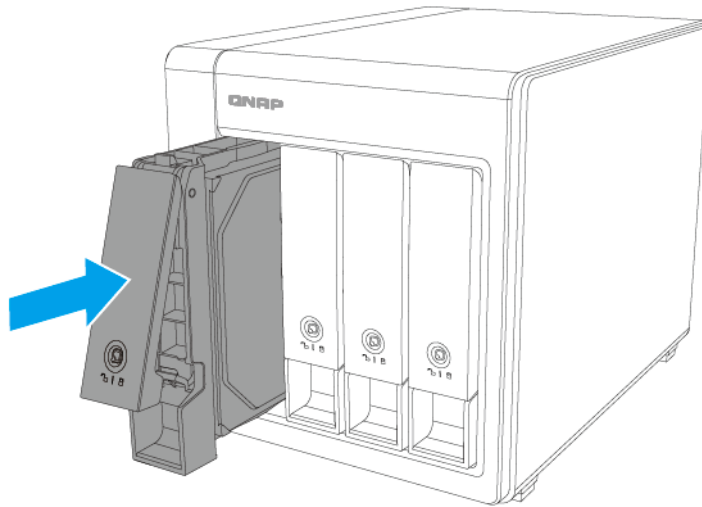
**3. Install a drive on the tray.**

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



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

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



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.

•



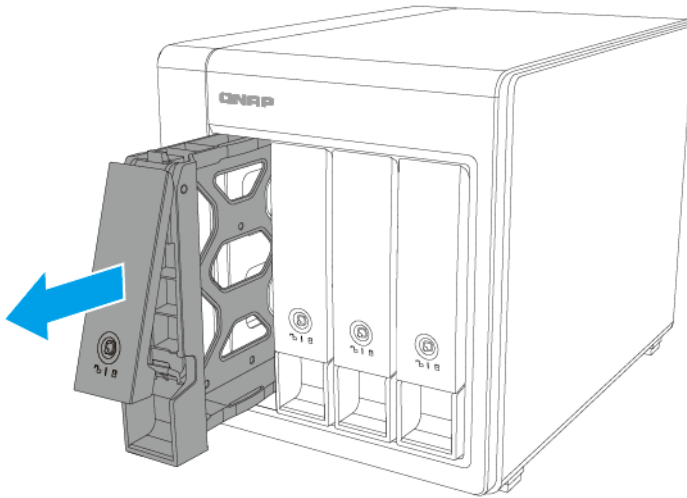
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

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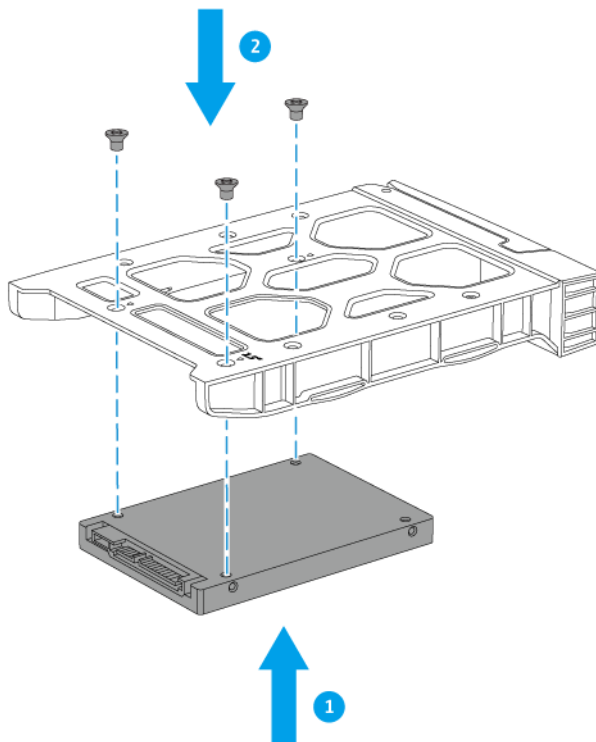
**Other moving components:** Keep your hands and other body parts away from other moving components.

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



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

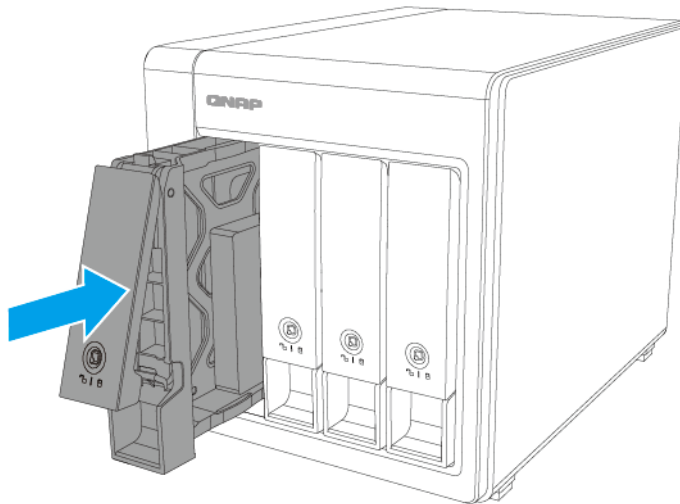
- a. Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.
- b. Attach the screws.



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



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



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.



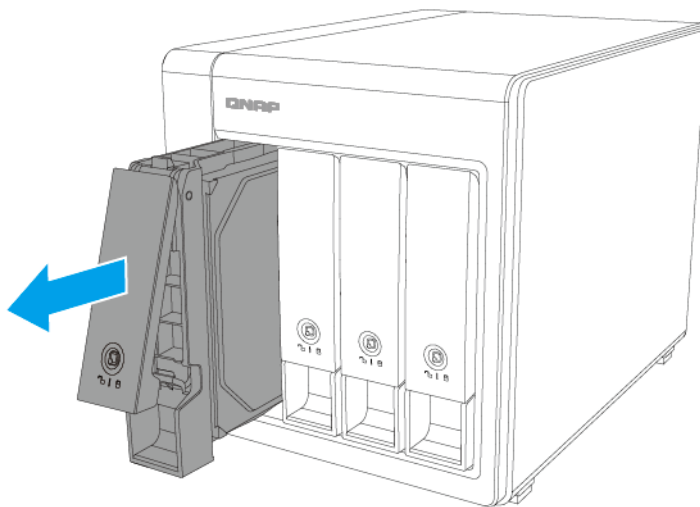
**Other moving components:** Keep your hands and other body parts away from other moving components.

1. Power off the NAS.

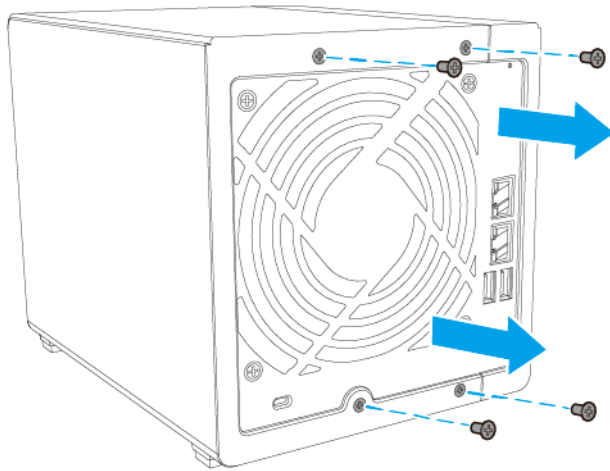
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the drive tray.
  - a. Pull the handle to release the tray.
  - b. Pull the tray out.

**Important**

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

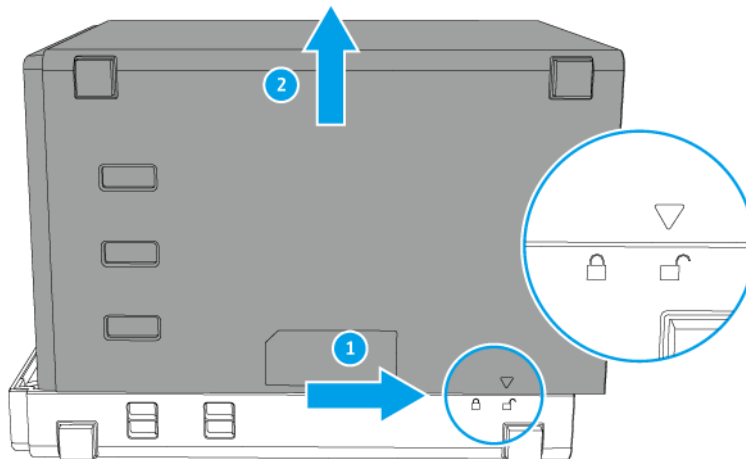


5. Remove the case cover.
  - a. Remove the screws that secure the case cover to the chassis.

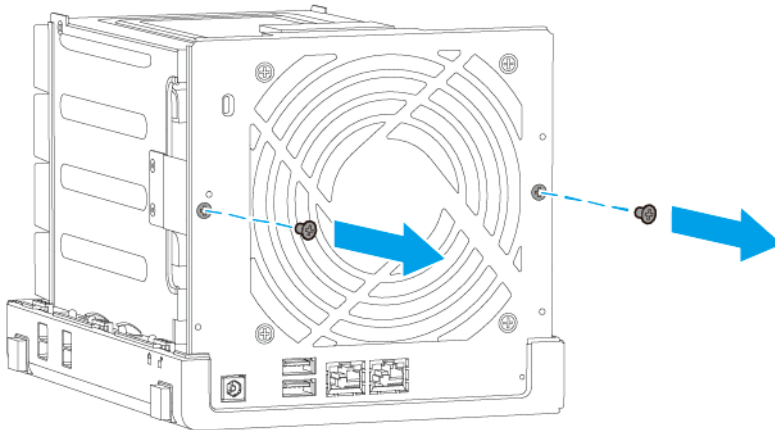
**Tip**

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

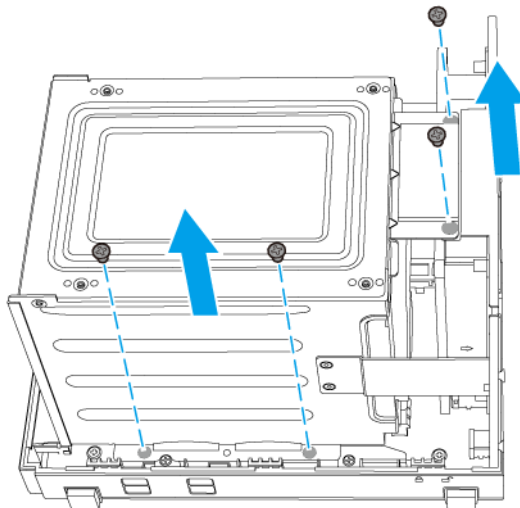
- b. Place the NAS on its right side.
- c. Slide the case cover to the right so that the triangle icon is aligned with the unlock icon.
- d. Pull the case cover up until it completely detaches from the chassis.

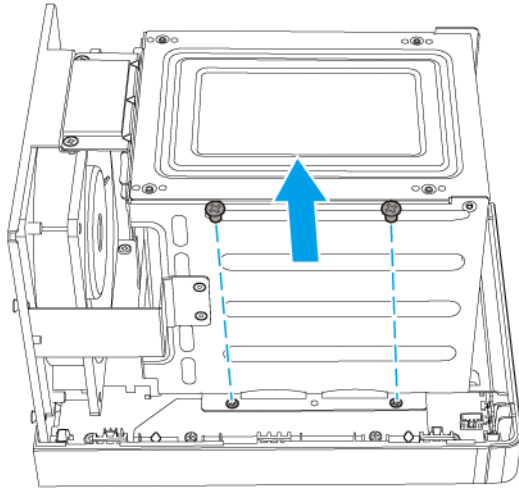


6. Remove the screws that secure the drive bay chassis to the back side of the NAS.

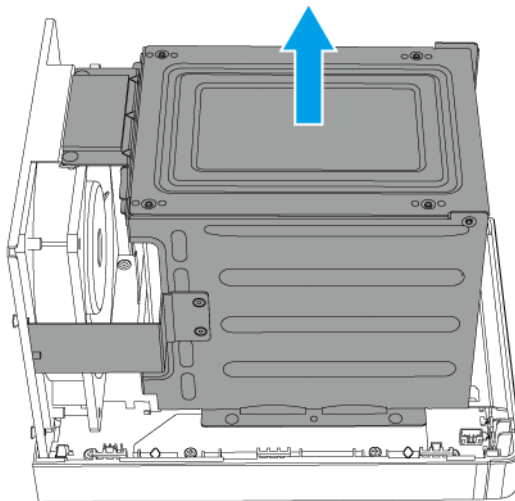


7. Remove the screws that secure the drive tray chassis to the NAS.

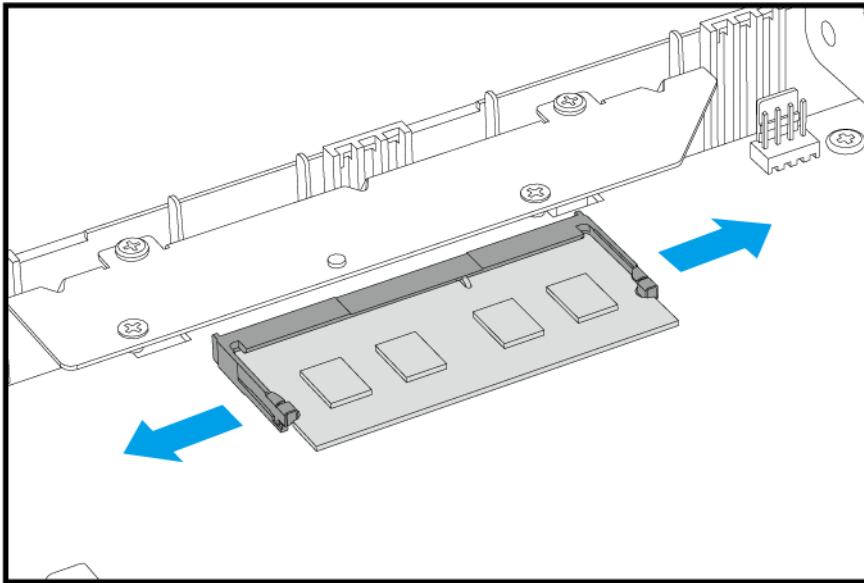




8. Carefully pull the drive tray chassis up until it completely detaches from the NAS.



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

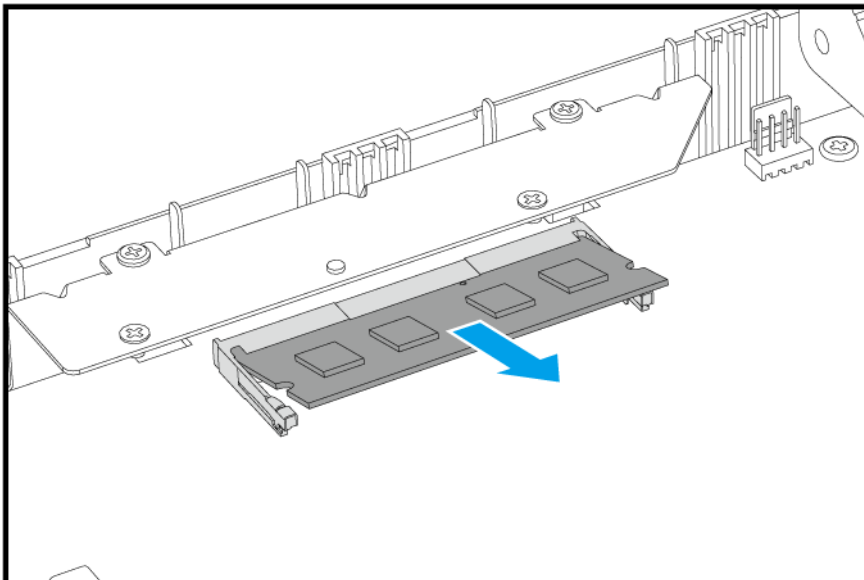


- b. Verify that the module has tilted upward and is completely released from the slot.

**Warning**

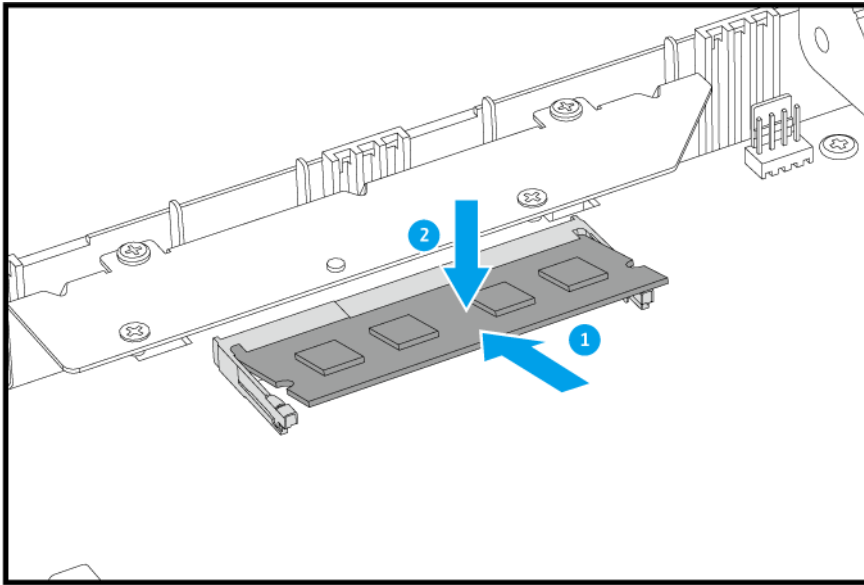
Attempting to remove a module that is not completely released may damage the module and the motherboard.

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



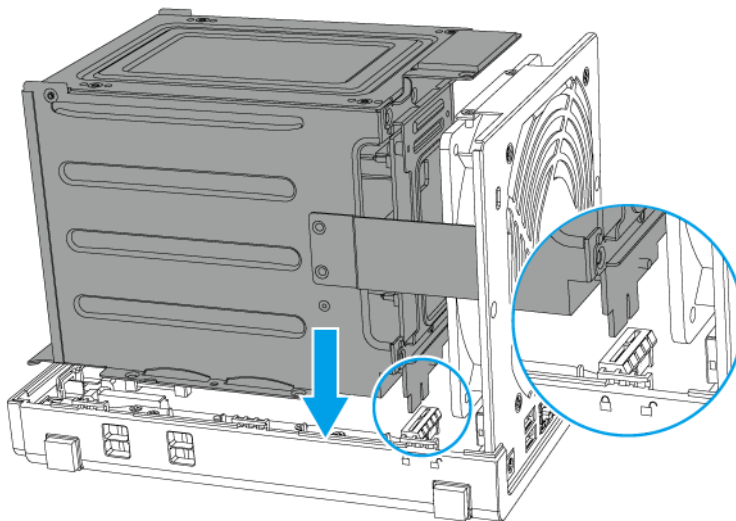
10. Install a new module.
  - a. Align the notch with the ridge in the slot.
  - b. Insert the module into the slot.

- 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.

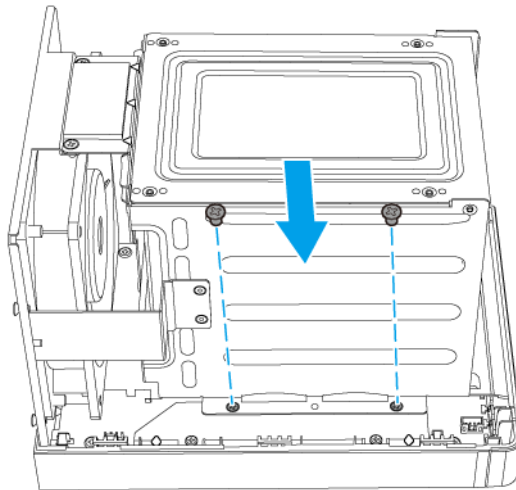
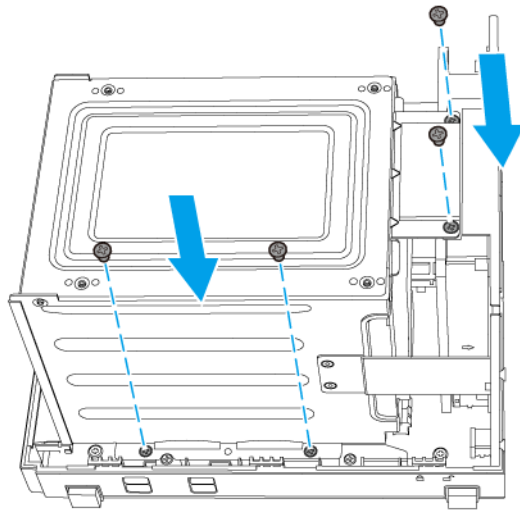


**11.** Place the drive tray chassis onto the NAS.

- a. Align the SATA connector on the drive tray chassis with the SATA port on the system board.
- b. Carefully insert the SATA connector into the SATA slot.

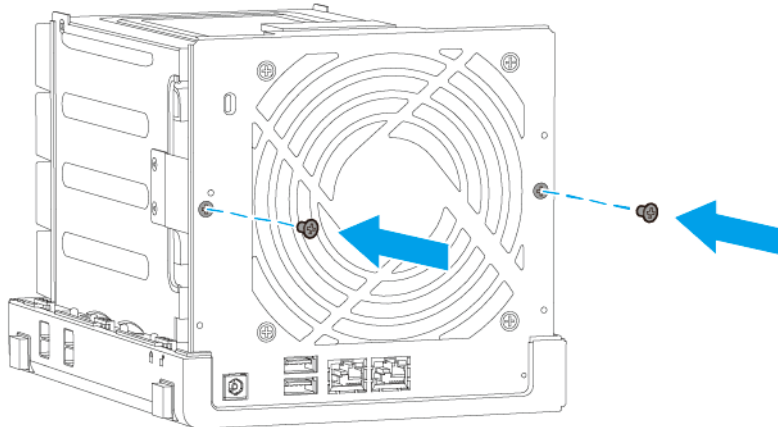


**12.** Attach the screws that secure the drive tray chassis to the NAS.



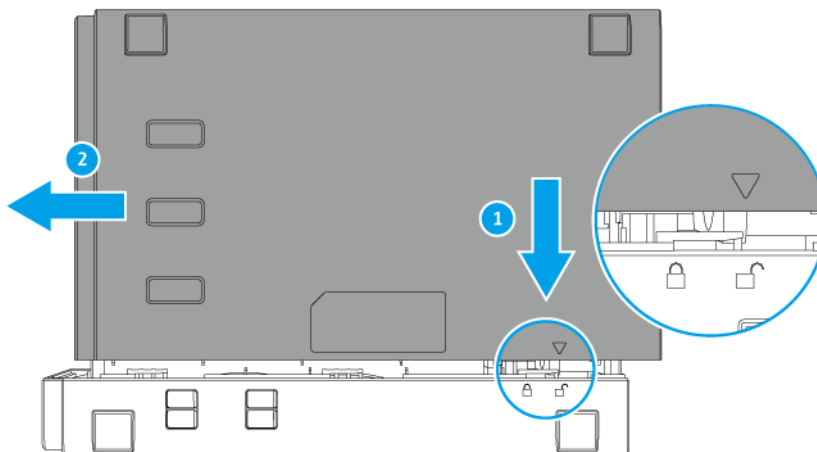
13. Attach the screws that secure the drive tray chassis to the back side of the NAS.



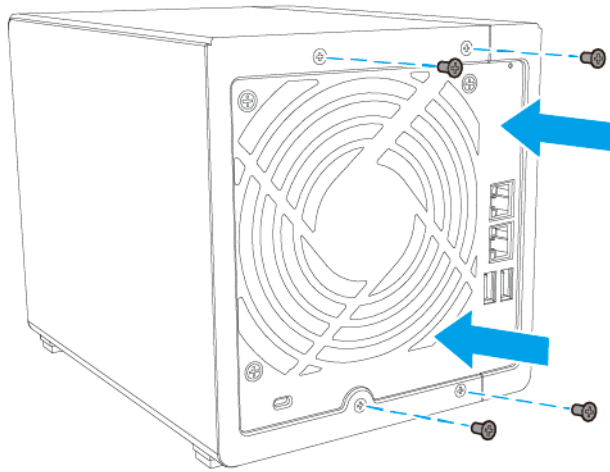


**14. Attach the case cover.**

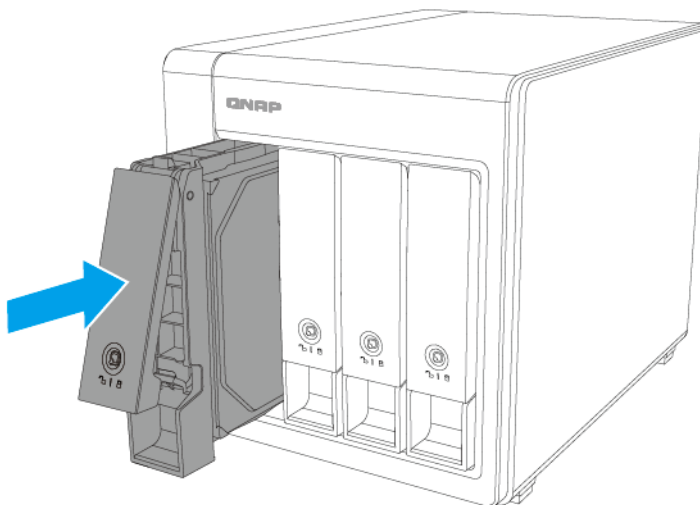
- a. Align the triangle icon on the case cover with the unlock icon on the chassis.
- b. Slide the case cover onto the chassis.
- c. Slide the case cover to the left so that the triangle icon is aligned with the lock icon.



- 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**.

## 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>
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</p>	<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.
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 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.	<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 [Components](#)



LED	Status	Description
System Status	Flashes green and red alternatively 2 times per second	<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 2 times per second	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 2 times per second	<ul style="list-style-type: none"> <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 LED (Front)	Orange	The NAS is connected to a network.
	Flashes orange	The NAS is being accessed from the network.
LAN LED (Rear)	Left green	The Ethernet port is connected to a 1 gigabit network.
	Left orange	The Ethernet port is connected to a 100 megabit network.
	Left off	The NAS is not connected to a network.
	Right green	The Ethernet port is connected to a network.
	Right flashes green	The NAS is being accessed on this Ethernet port.
	Right off	The Ethernet port is not connected to a network.
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.
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>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="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

### **CloudKey**

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

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## END OF TERMS AND CONDITIONS

### 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.

### CE Notice



This QNAP NAS complies with CE Compliance Class B.

## SJ/T 11364-2006



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壳体	0	0	0	0	0	0
显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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