

The QNAP logo is located in the top-left corner of the page. It consists of the letters "QNAP" in a bold, white, sans-serif font, set against a solid blue square background.

**QNAP**

# **TS-251D**

## **User Guide**

The background of the page features a complex, abstract geometric pattern of overlapping, semi-transparent white and light gray polygons, creating a sense of depth and movement. This pattern is most prominent in the lower-left and bottom-center areas.

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# 1. Preface





## About This Guide

This guide provides information on the QNAP TS-251D 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-251D NAS.

### About the TS-251D

The TS-251D is powered by an Intel® Celeron® J4005 dual-core 2.0 GHz processor with burst frequency up to 2.7 GHz. The TS-251D supports up to 8 GB of DDR4 RAM and features USB One Touch Copy, a Gigabit LAN port, and a PCIe slot. With Intel® AES-NI 256 hardware-accelerated encryption engine, the TS-251D ensures the security of sensitive data and protects important information stored on the NAS.

### Hardware Specifications












#### Warning

- If your QNAP product has hardware defects, return the product to QNAP or a QNAP-authorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third-party invalidates the warranty.
- QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications. For details, see the [QNAP Warranty Terms and Conditions](#).

Ordering P/N	CPU	Memory	Power supply
TS-251D-2G	Intel® Celeron® J4005	2 GB	Single
TS-251D-4G	Intel® Celeron® J4005	4 GB	Single

Component	TS-251D-2G	TS-251D-4G
Processor		
CPU	Intel® Celeron® J4005	
Frequency	Dual-core/2-thread 2.0 GHz base/2.7 GHz burst	
Architecture	x86 64-bit	
Encryption engine	AES-NI	
Memory		
Pre-installed memory	2 GB RAM: 1 x 2 GB SODIMM DDR4	4 GB RAM: 1 x 4 GB SODIMM DDR4
Memory slots	2 x SODIMM DDR4	
	<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: 2 x 4 GB	
Flash memory	4 GB (Dual-boot OS protection)	

Component	TS-251D-2G	TS-251D-4G
Storage		
Drive bays	2 x 3.5-inch SATA 6 Gbps   <b>Tip</b> The drive bays are backward compatible with 3.5-inch SATA 3 Gbps drives.	
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>	
SSD cache acceleration support	3.5-inch drive bays 1 to 2	
Hot-swapping	Supported	
Network		
Gigabit Ethernet ports	1 x GbE RJ45	
External I/O Ports & Expansion Slots		
PCIe slots	1 x PCIe 2.0 x4   <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> .	
USB ports	Front: 1 x USB 3.0 Type-A   <b>Note</b> This USB port supports One Touch Copy.  Rear: <ul style="list-style-type: none"> <li>• 3 x USB 2.0 Type-A</li> <li>• 1 x USB 3.0 Type-A</li> </ul>	
HDMI ports	1 x HDMI 2.0 (up to 3840 x 2160 resolution at 60Hz)	
Interface		
IR sensor	1   <b>Note</b> The QNAP RM-IR004 remote control is an optional separate purchase.	
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)	168 x 105 x 226 mm (6.61 x 4.13 x 8.90 in)	

Component	TS-251D-2G	TS-251D-4G
Net weight	1.48 kg (3.26 lbs)	
Others		
Power supply unit	65W, 100-240V AC, 50/60 Hz   <b>Warning</b> To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.	
System battery	CR2032 lithium battery (3V, 225 mAh)   <b>Warning</b> 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.   <b>Important</b> Dispose of used batteries according to local regulations or the instructions of the battery manufacturer.	
Sound level	16.7 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   <b>Warning</b>   To avoid potential injury or damage to components, do not touch the fans while the NAS is connected to a power source.	
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>	

**Tip**

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

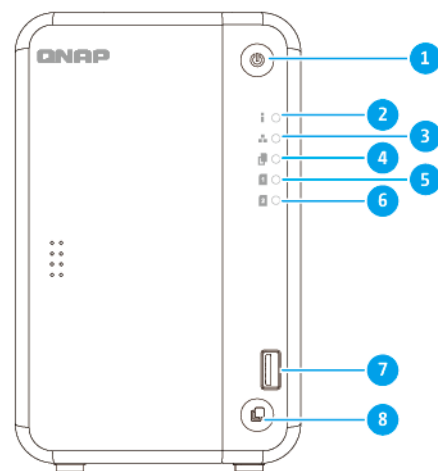
## Package Contents

Item	Quantity
TS-251D	1
AC power adapter	1

Item	Quantity
Power cord	1
Ethernet cable	Cat5e cable: 1
Screws for 3.5-inch drives	8
Screws for 2.5-inch drives	6
Quick Installation Guide (QIG)	1

## Components

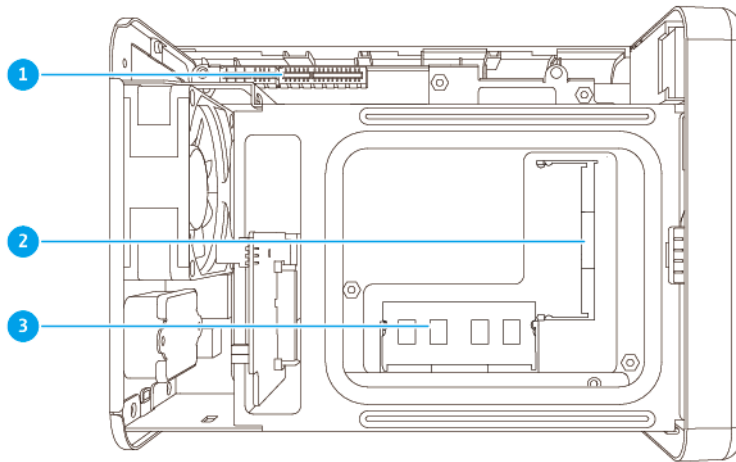
### Front Panel



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

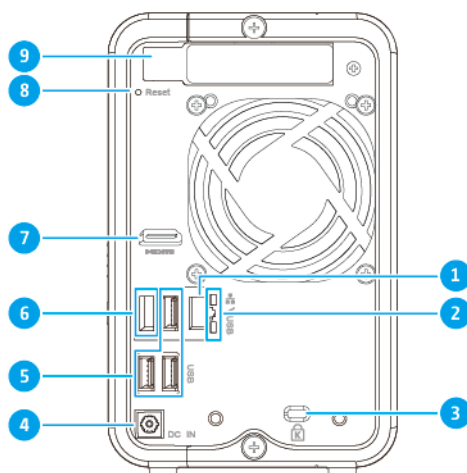


## Left Panel



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

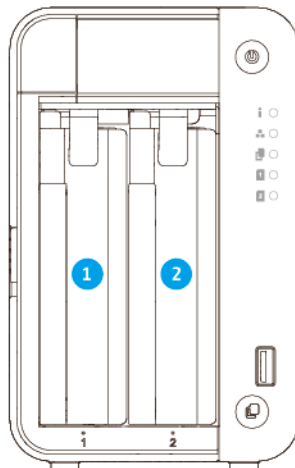
## Rear Panel



No.	Component	No.	Component
1	Ethernet Port (RJ45)	6	USB 3.0 Type-A port
2	Gigabit Ethernet LEDs	7	HDMI 2.0 port
3	Kensington security slot	8	Reset button

No.	Component	No.	Component
4	Power input	9	PCIe low-profile cover
5	USB 2.0 Type-A ports	-	-

## Drive Numbering



## Safety Information

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

### 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

- 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 For the list of compatible drive models, 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>• Flat head 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 topics:

- [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.

### Drive Installation

The TS-251D is compatible with 3.5-inch hard drives, 2.5-inch hard drives, and 2.5-inch solid-state drives.

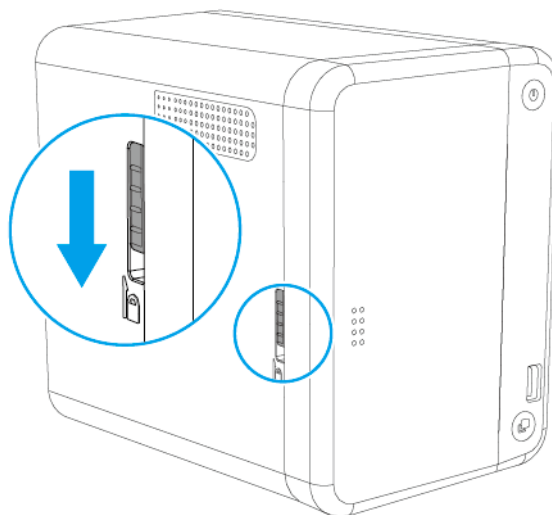
#### Installing 3.5-inch Hard Drives on 3.5-inch Trays



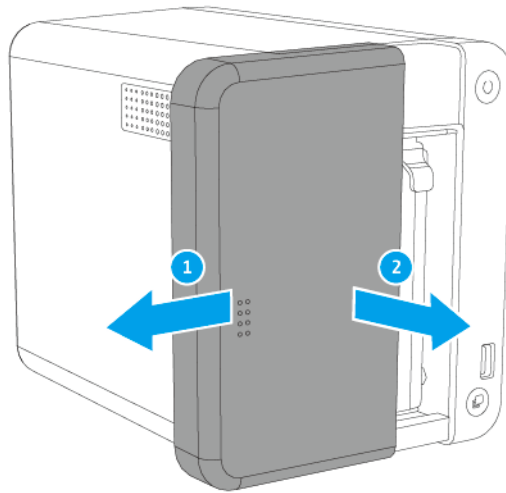
#### Warning

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

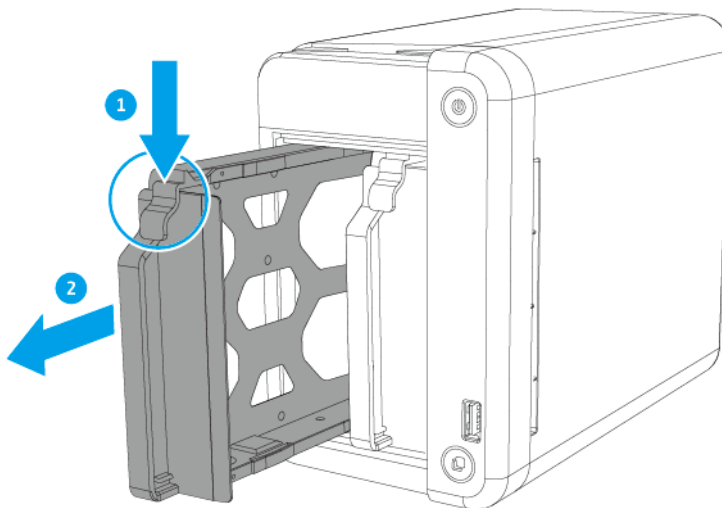
1. Power off the NAS.
2. Remove the front cover.
  - a. Locate the locking mechanism on the left side of the NAS.
  - b. Slide the lock down to release the front cover.



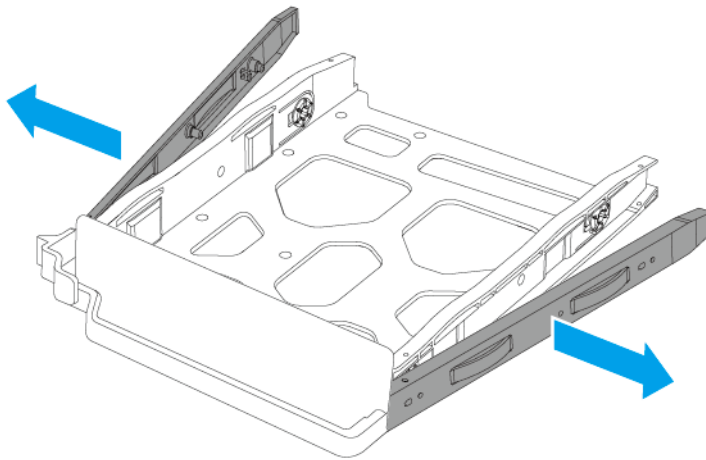
- c. Slide the front cover to the left and then pull.
- d. Remove the cover.



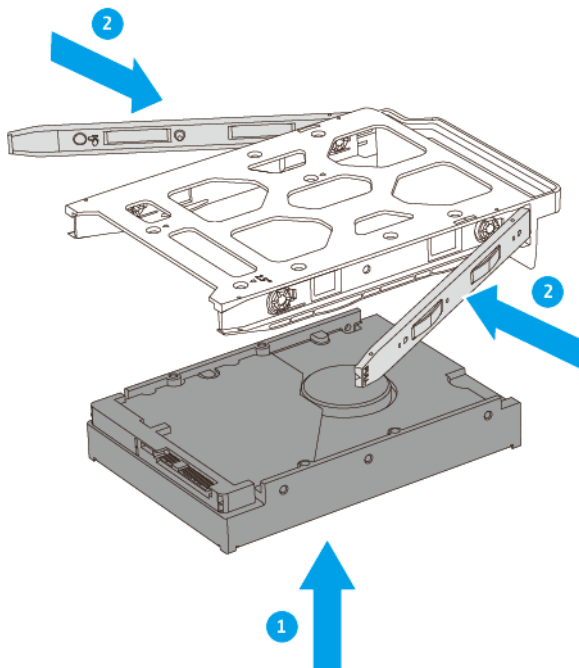
3. Remove a drive tray by simultaneously pressing the latch and pulling the tray.



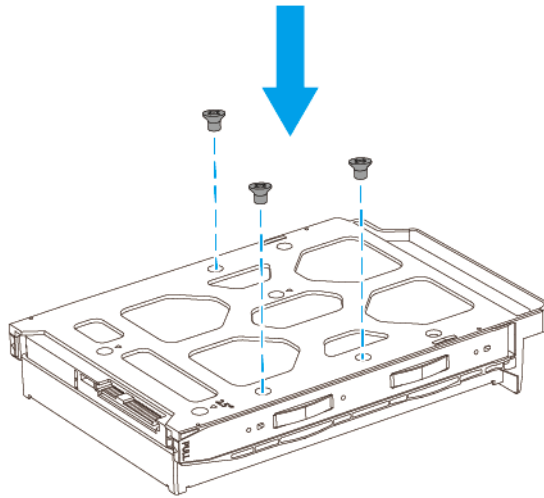
4. Install a drive on the tray.
  - a. Remove the fastening panels from the sides of the drive tray.



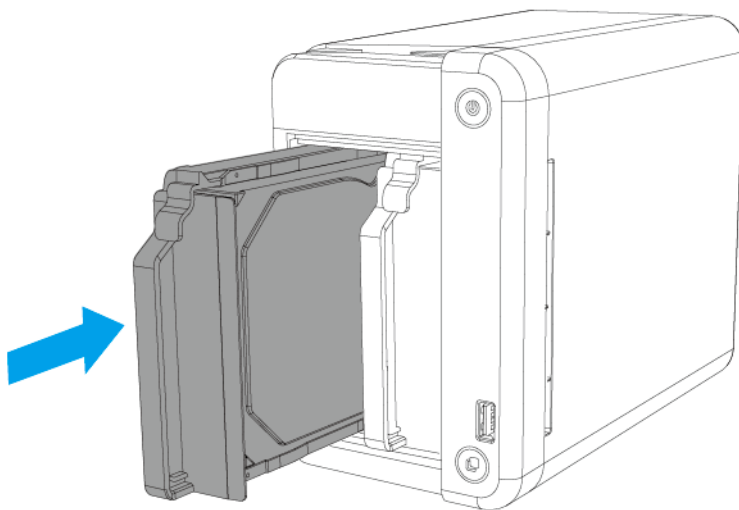
**b.** Attach the fastening panels to lock the drive to the tray.



**c.** Attach the screws.

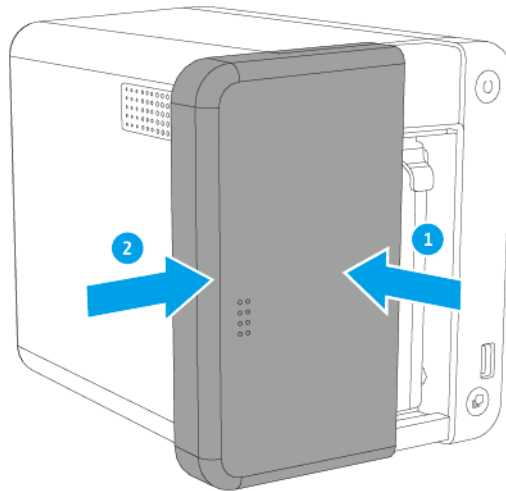


5. Slide the tray into the drive bay.

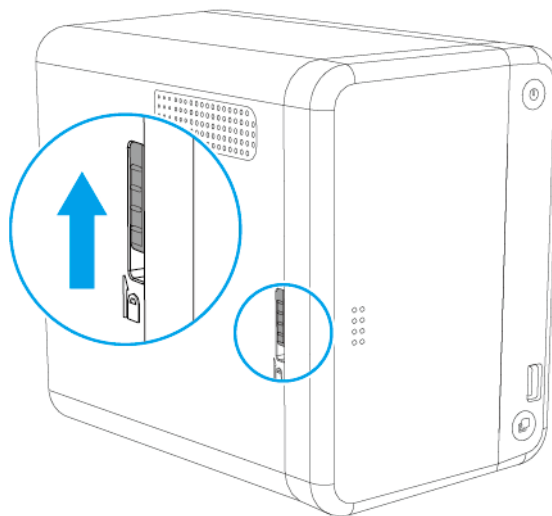


6. Attach the front cover.
  - a. Align the front cover with the grooves on the case and then slide to the right.





- b. Slide the lock up to secure the front cover.



7. Power on the NAS.

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

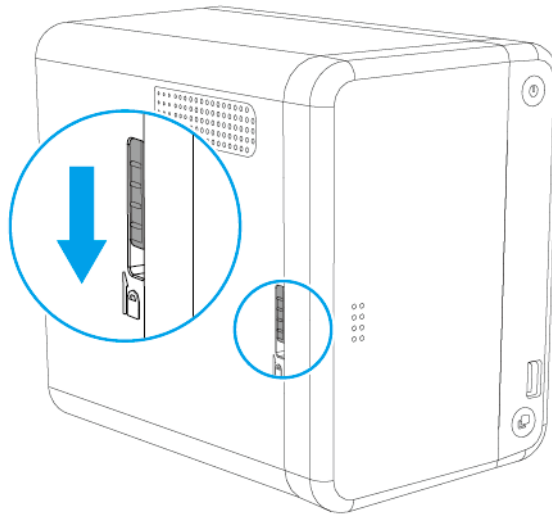


#### Warning

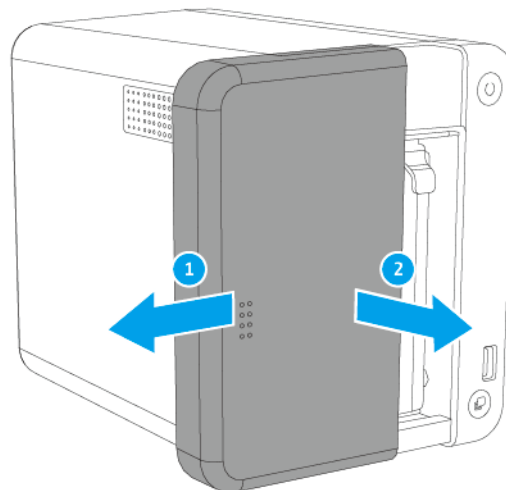
- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Power off the NAS.
2. Remove the front cover.

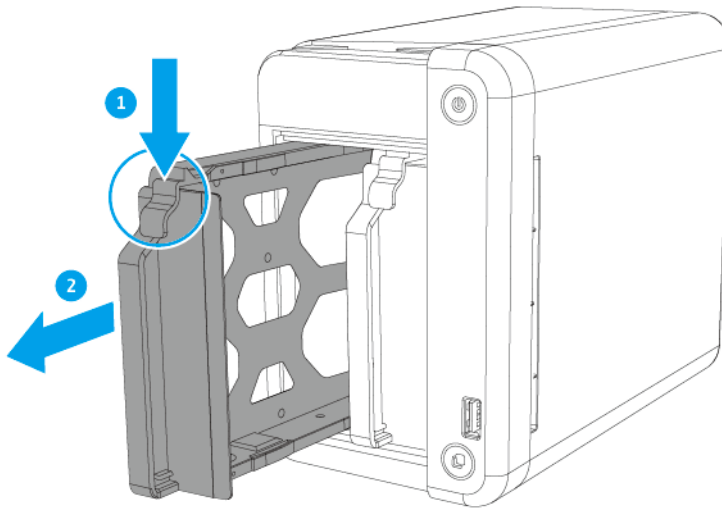
- a. Locate the locking mechanism on the left side of the NAS.
- b. Slide the lock down to release the front cover.



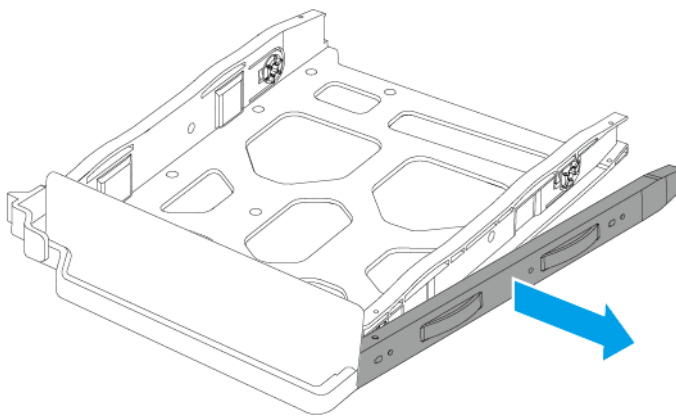
- c. Slide the front cover to the left and then pull.
- d. Remove the cover.



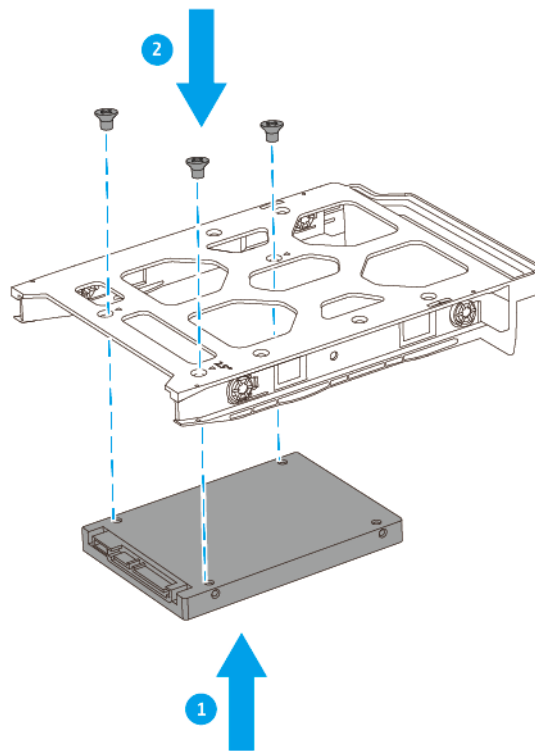
3. Remove a drive tray by simultaneously pressing the latch and pulling the tray.



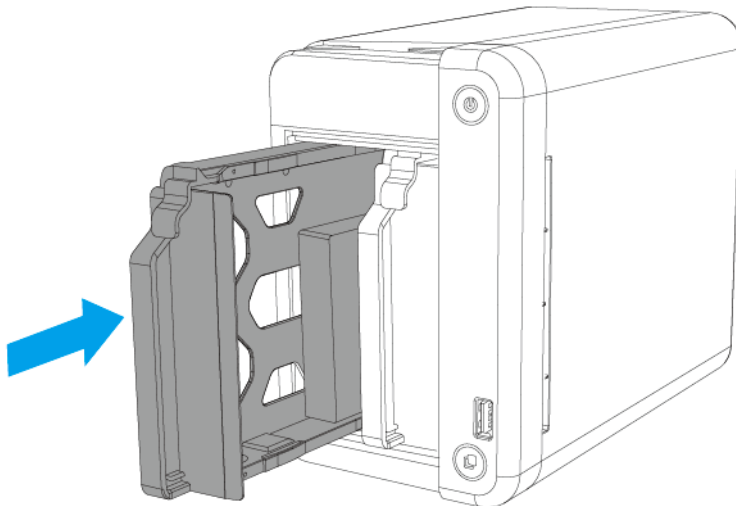
4. Install a drive on the tray.
  - a. Remove the right fastening panel from the drive tray.



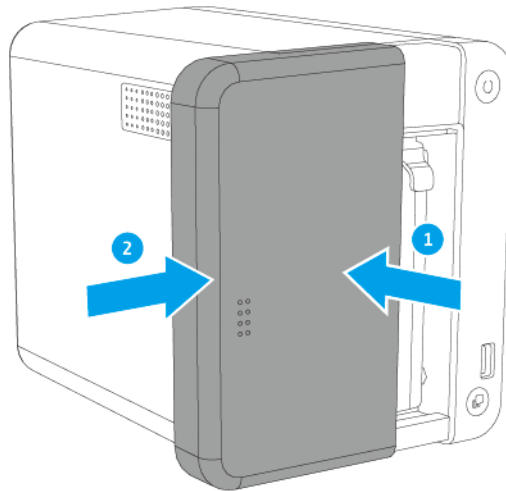
- b. Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.
    - c. Attach the screws to lock the drive to the tray.



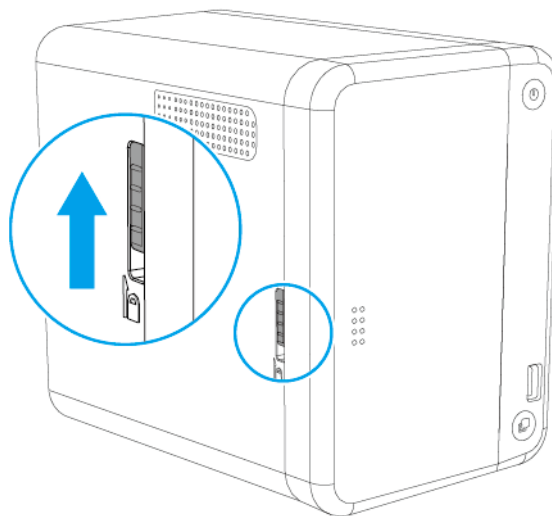
5. Slide the tray into the drive bay.



6. Attach the front cover.
  - a. Align the front cover with the grooves on the case and then slide to the right.



b. Slide the lock up to secure the front cover.



## Installing Expansion Cards

The TS-251D supports selected expansion cards, some of which require QNAP PCIe brackets. QNAP branded expansion cards purchased from the company website are shipped with the brackets necessary to fit all QNAP NAS models. The TS-251D series uses low-profile flat 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.

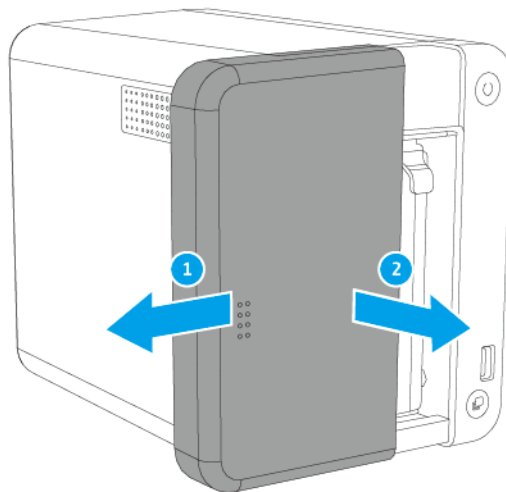


**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

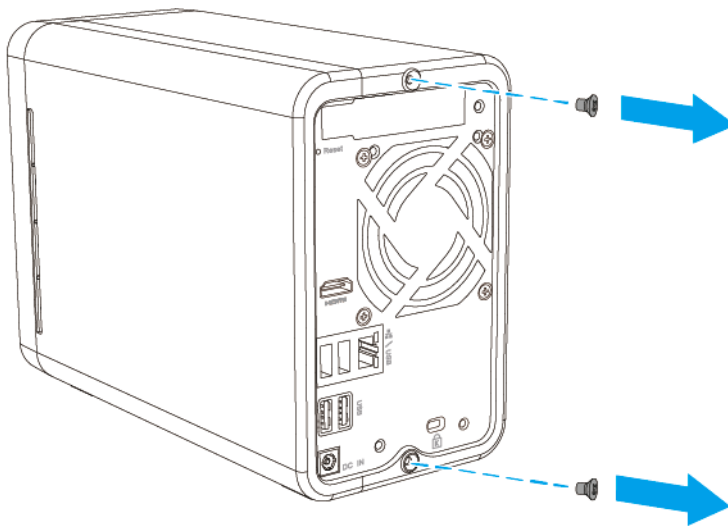


**Other moving components:** Keep your hands and other body parts away from other moving components.

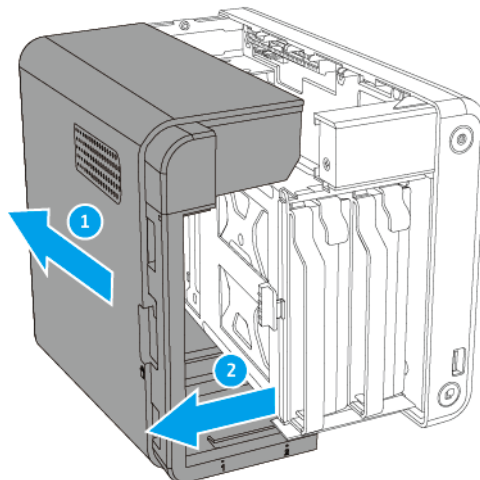
1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the front cover.
  - a. Locate the locking mechanism on the left side of the NAS.
  - b. Slide the lock down to unlock the front cover.
  - c. Slide the front cover to the left and then pull.



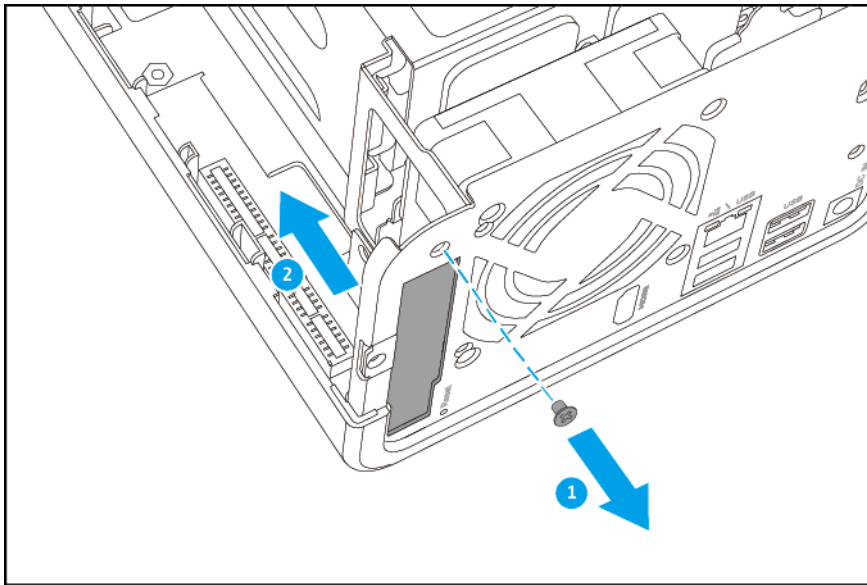
5. Remove the case cover.
  - a. Remove the screws that secure the case cover to the chassis.



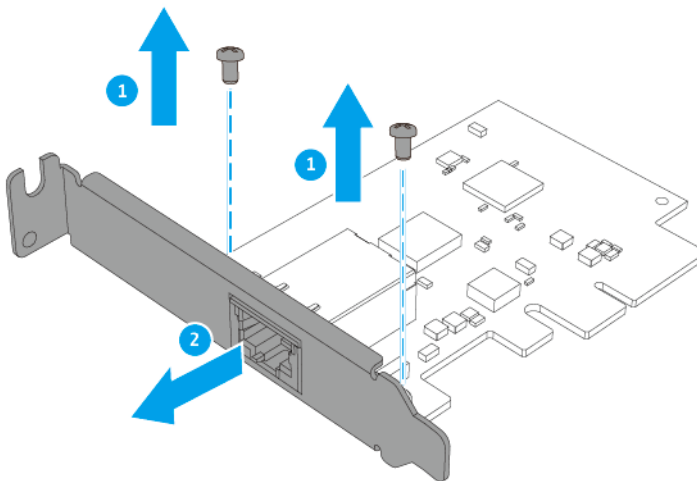
- b.** Slide the cover back to detach it from the chassis.
- c.** Pull the cover to the left to remove it.



- 6.** Position the NAS on its right side.
- 7.** Remove the PCIe slot cover.
  - a.** Remove the screw.
  - b.** Remove the cover from the slot.

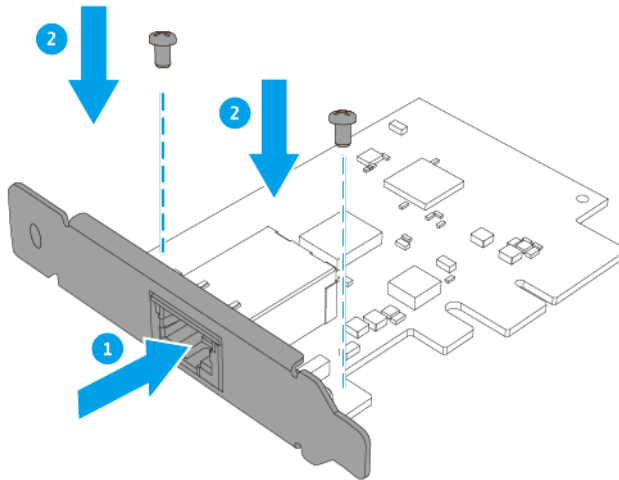


8. Optional: Attach the QNAP low-profile flat bracket to the expansion card.
  - a. Remove all screws of the existing bracket.
  - b. Carefully pull the bracket away from the card.

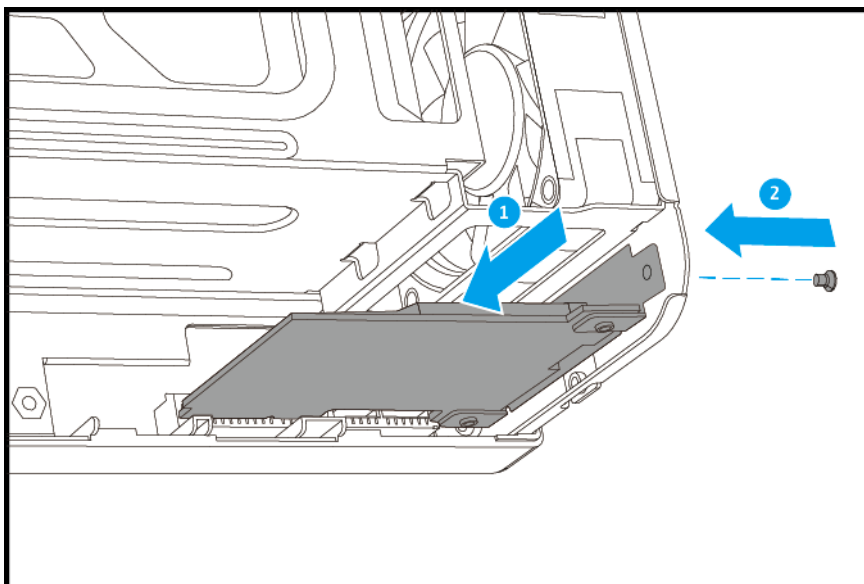


- c. Attach the QNAP bracket to the card using the same screws.



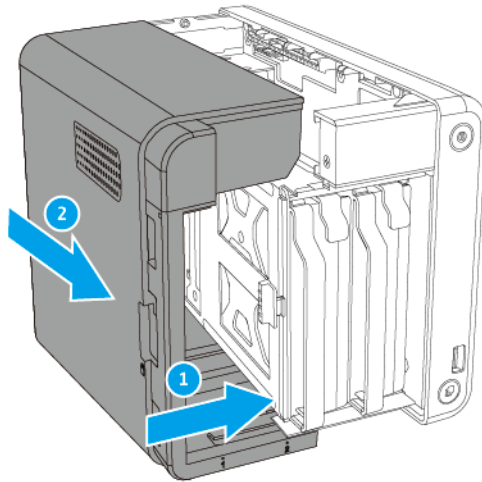


- d. Verify that the bracket does not move.
9. Install the expansion card.
    - a. Hold the expansion card by the edges.
    - b. Insert the card into the slot.
    - c. Attach the screw.

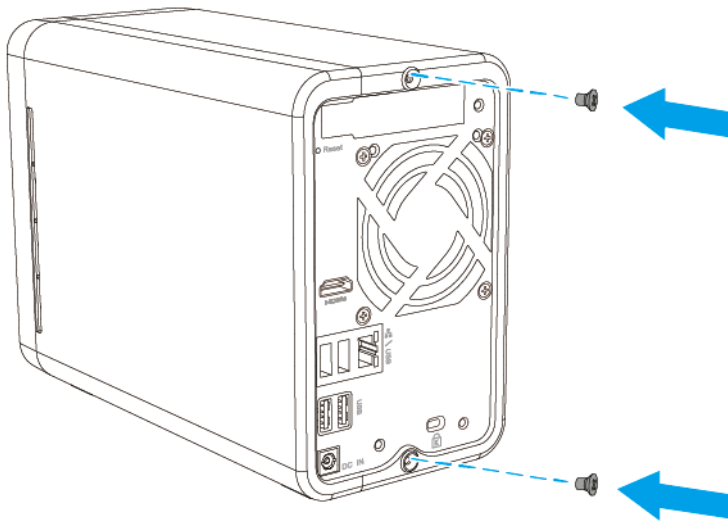


10. Place the NAS in its normal upright position.
11. Attach the case cover.
  - a. Push the cover to the right to attach it to the chassis.

- b. Slide the cover forward to secure it.

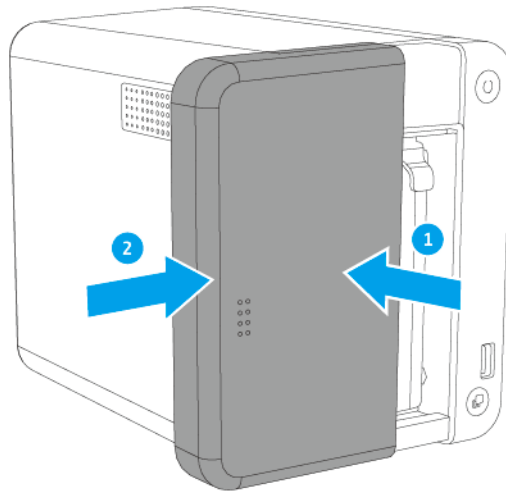


- c. Attach the screws to the back of the NAS.

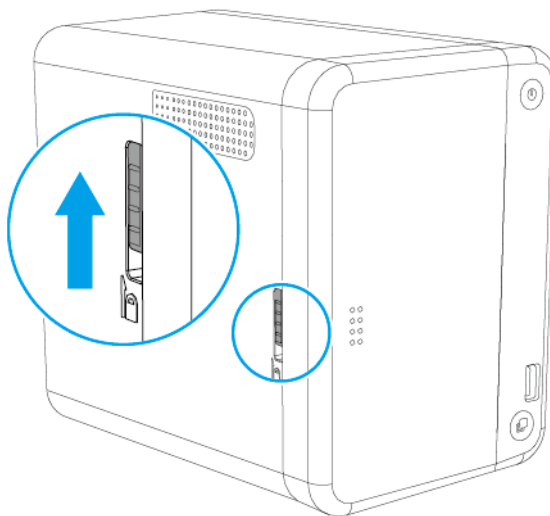


**12. Attach the front cover.**

- a. Align the cover with the grooves on the case.  
b. Slide the cover to the right.



c. Slide the lock up.



13. Connect all cables and external attachments.

14. Power on the NAS.

## Replacing Memory Modules

The TS-251D has two memory slots. You can increase the memory capacity of the NAS by upgrading the memory modules. When using two 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.



- 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.

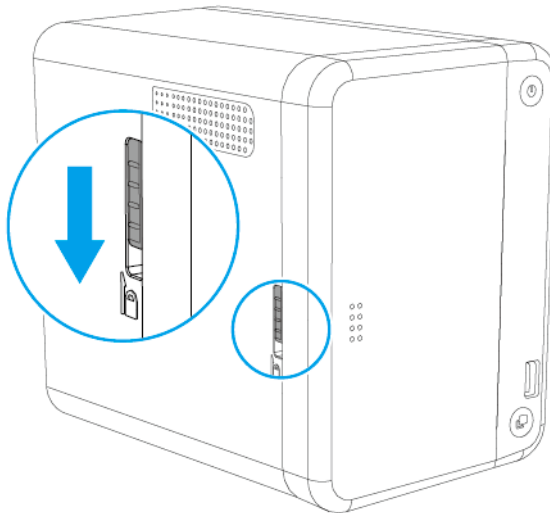


**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

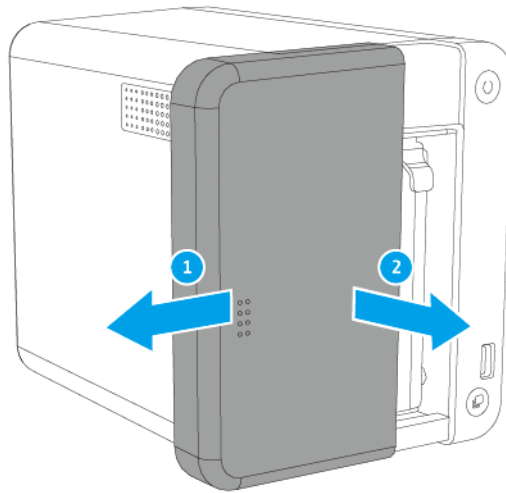


**Other moving components:** Keep your hands and other body parts away from other moving components.

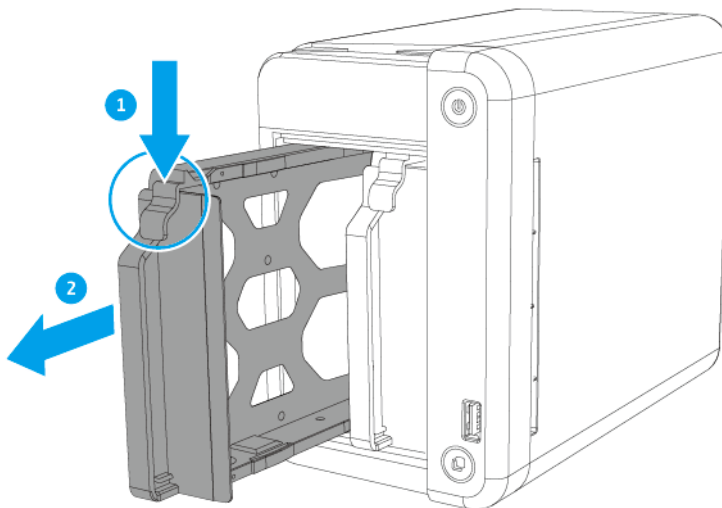
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3. Disconnect all cables and external attachments.
4. Remove the front cover.
  - a. Locate the locking mechanism on the left side of the NAS.
  - b. Slide the lock down to unlock the front cover.



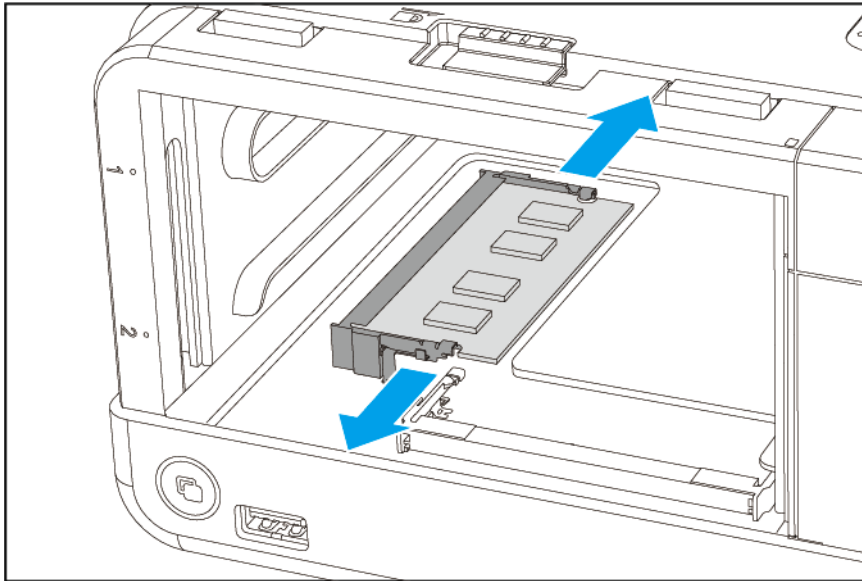
- c. Slide the front cover to the left and then pull.



5. Remove each drive tray by simultaneously pressing the latch and pulling the tray.



6. Position the NAS on its right side.
7. Optional: Remove an existing module.
  - a. Push the retention clips outward simultaneously to release the module.



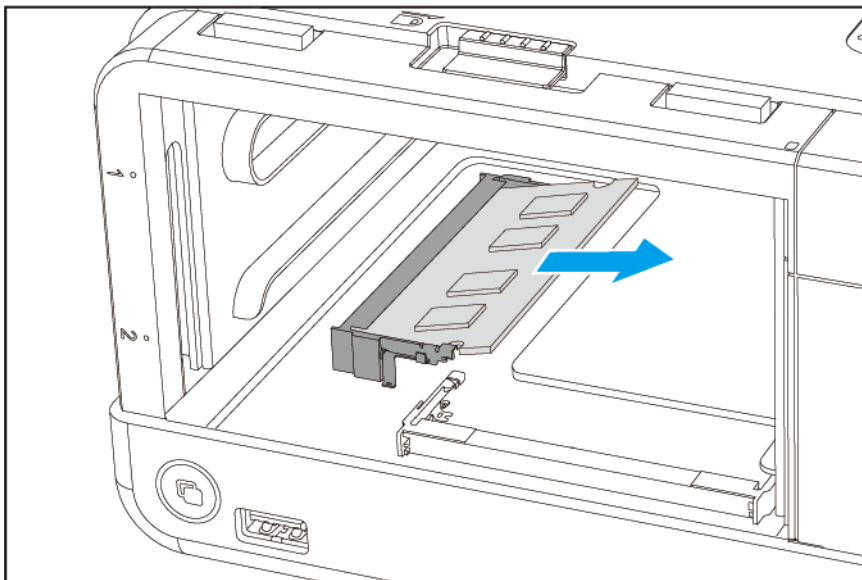
- b. Verify that the module has tilted upward and is completely released from the slot.



**Warning**

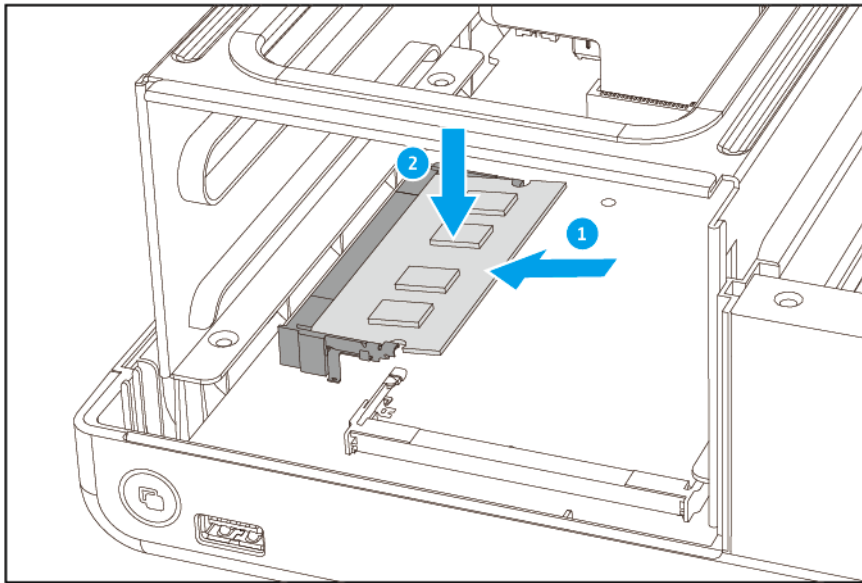
Attempting to remove a module that is not completely released may damage the module and the motherboard.

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

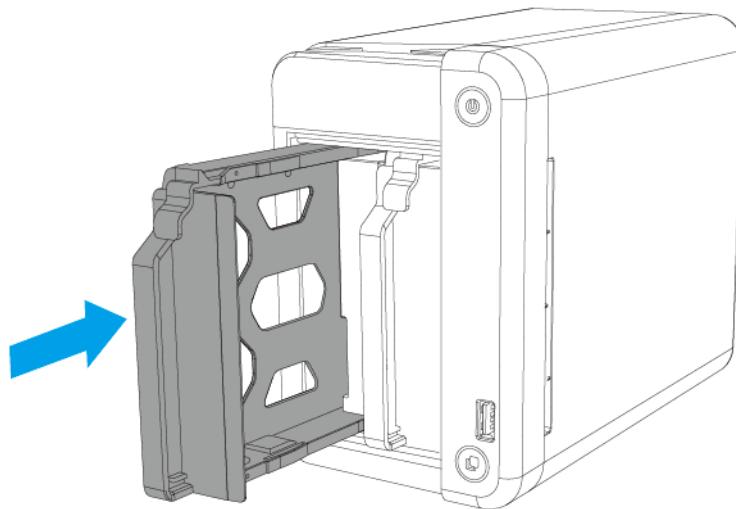


9. Install a new module.
  - a. Align the notch with the ridge in the slot.
  - b. Insert the module into the slot.
  - c. Verify that the metal connectors are completely inserted into the slot.

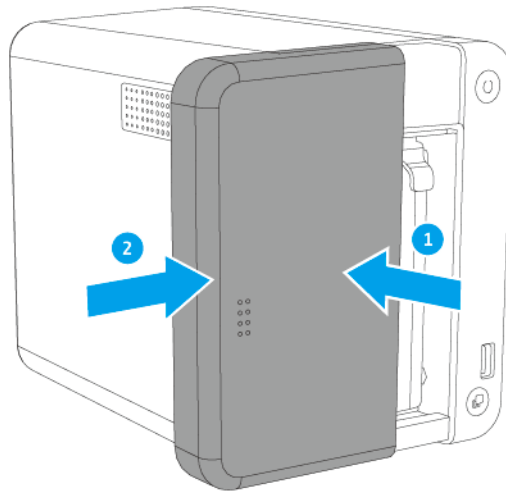
- d. Carefully press down on the module until the retention clips lock the module into place.



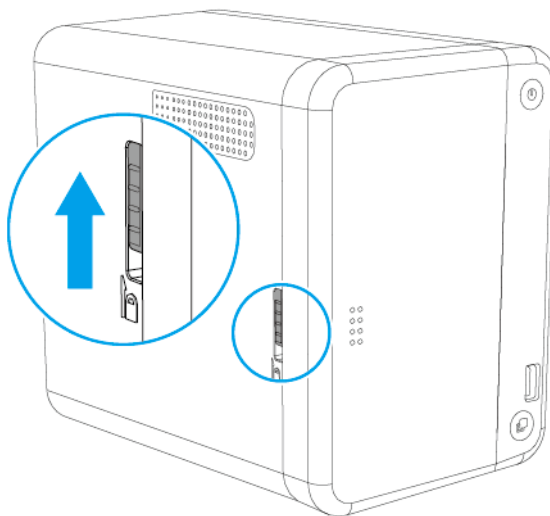
10. Place the NAS in its normal upright position.
11. Load drive trays back into the NAS.



12. Attach the front cover.
  - a. Align the cover with the grooves on the case.
  - b. Slide the cover to the right.



c. Slide the lock up.



**13.** Connect all cables and external attachments.

**14.** Power on the NAS.



## 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 myQNAPcloud Link 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>
Local installation	If the NAS supports HDMI output, you can do the following: <ul style="list-style-type: none"> <li>• Connect the NAS to the required hardware.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor</li> <li>• HDMI cable</li> <li>• USB keyboard or Remote control (not available on all models)</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. Review the settings.
15. Click **Apply**.  
A confirmation message appears.

**Warning**

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

16. 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.

- 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.

- Click **Next**.

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

- Click **Start Smart Installation Guide**.

- 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.

- Click **Next**.

- 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.

- Click **Next**.

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

- Click **Next**.

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

- Click **Next**.

- Review the settings.

- Click **Apply**.

A confirmation message appears.

**Warning**

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

- Click **Confirm**.

QTS is installed.

## Installing QTS Using an HDMI Connection



### Warning

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

1. Connect an HDMI display to the NAS.
2. Connect a USB keyboard to the NAS or prepare the QNAP IR remote control (not available on all models).
3. Power on the NAS.  
The **Welcome** screen of the Smart Installation Guide appears.
4. Select **Start Smart Installation Guide**.
5. Select **No, skip this process**.  
Enabling the multimedia functions allows you to install multimedia applications after configuring the disks in Storage & Snapshots.  
For details on enabling multimedia functions on QTS, see the System Administration section of the QTS User Guide.
6. Select **Configure later**.  
For details on configuring disks, see the Storage & Snapshots section of the QTS User Guide.
7. Review the settings.
8. Click **Next**.
9. Review the settings.
10. Click **Next**.  
The **Confirm** screen appears.



### Warning


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

11. Click **Next**.  
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>

### 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>One drive failed under any RAID condition other than RAID 1.</li> <li>Both drives failed.</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).
	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>
	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>

## 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 drives when one member drive fails in RAID 1.

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 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



Disk Volume	RAID Recovery Support	Maximum Number of Removed Drives
RAID 0	Yes	1
RAID 1	Yes	1

## Support and Other 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

## 7. Notices

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Version 3, 29 June 2007

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- 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.

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## END OF TERMS AND CONDITIONS

### CE Notice



This QNAP NAS complies with CE Compliance Class B.

### 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



## SJ/T 11364-2006



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