

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-332X**

## **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.

Document Version: 1  
20/07/2018

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# 1. Preface





## About This Guide

This guide provides information on the QNAP TS-332X 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-332X NAS.

### About the TS-332X


The TS-332X is equipped with an AL-324 quad-core 1.7 GHz ARM® Cortex-A57 processor and can support up to 16 GB of DDR4 memory. The TS-332X features USB One Touch Copy for seamless backup and synchronization. In addition to its two Gigabit Ethernet ports, the TS-332X has an additional 10 Gigabit Ethernet port for enhanced connectivity and comes with three M.2 SSD slots for improved data management.





### Hardware Specifications






#### Important

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

Component	TS-332X
Ordering Information	
Ordering P/N	<ul style="list-style-type: none"> <li>• TS-332X-2G</li> <li>• TS-332X-4G</li> </ul>
Processor	
CPU	Annapurna Labs Alpine AL-324
Frequency	4-core 1.7 GHz
Architecture	64-bit ARM
Encryption engine	AES-256
Memory	
Pre-installed memory	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR4</li> <li>• 4 GB RAM: 1 x 4 GB DDR4</li> </ul> <div style="margin-top: 10px;">  <h4>Important</h4> <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>
Total memory slots	1 x SODIMM DDR4
Maximum memory	16 GB RAM: 1 x 16 GB
Flash memory	512 MB NAND
Storage	
Drive bays	3 x 3.5-inch SATA 6 Gbps

Component	TS-332X
Drive compatibility	<ul style="list-style-type: none"> <li>• 3.5-inch SATA hard disk drives</li> <li>• 2.5-inch SATA hard disk drives</li> <li>• 2.5-inch SATA solid state drives</li> </ul> <p> <b>Note</b> The TS-332X comes with a drive tray base for 2.5-inch SATA drives. You can purchase additional tray bases from QNAP or an authorized reseller. For details, go to <a href="https://shop.qnap.com/">https://shop.qnap.com/</a>.</p>
Hot-swappable	Yes
M.2 SSD type	3 x SATA 6 Gbps
M.2 SSD form factor	2280
SSD cache acceleration support	<p>Yes</p> <p> <b>Note</b></p> <ul style="list-style-type: none"> <li>• SSD cache drives are not hot-swappable.</li> <li>• M.2 SSDs are not hot-swappable.</li> </ul>
Network	
10 Gigabit Ethernet ports	1 x 10 Gigabit SFP+
Gigabit Ethernet ports	2 x Gigabit RJ45
External I/O Ports & Expansion Slots	
USB ports	<ul style="list-style-type: none"> <li>• Front: 1 x USB 3.0 Type-A</li> </ul> <p> <b>Note</b> This USB port supports One Touch Copy.</p> <ul style="list-style-type: none"> <li>• Rear: 2 x USB 3.0 Type-A</li> </ul>
Audio	<ul style="list-style-type: none"> <li>• 1 x 3.5 mm line-out jack</li> <li>• 1 x speaker</li> </ul> <p> <b>Note</b> You cannot use the speaker and the line-out jack simultaneously.</p>
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)	142 x 150 x 260 mm (5.59 x 5.90 x 10.24 in)
Net weight	1.64 kg (3.62 lbs)

Component	TS-332X
Other	
Power supply unit	90W, 200-240V AC, 50/60 Hz
System battery	CR2032 lithium battery (3V, 225 mAh)   <b>Warning</b> To avoid potential injury or damage to components, ensure that you replace the existing battery with a battery of the same type.
Sound level	20.4 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 90 mm, 12V DC smart fan   <b>Warning</b> To avoid potential injury or damage to components, do not touch the fan 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 90%</li> <li>• Wet-bulb temperature: 27°C (80.6°F)</li> </ul>
Security slot	Kensington security slot

**Tip**

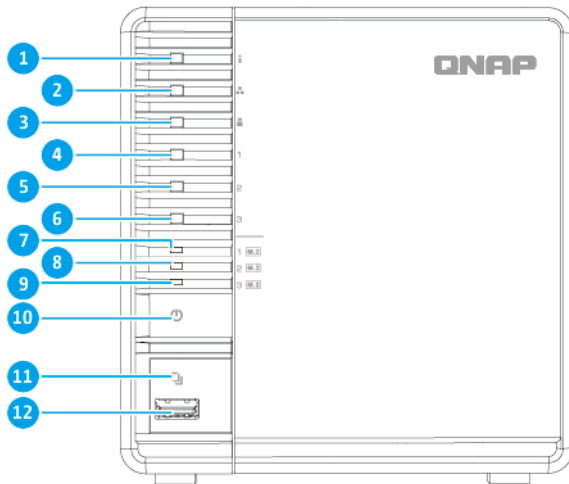
Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

## Package Contents

Item	Quantity
TS-332X NAS	1
2.5-inch drive tray base	1
Drive tray caddy pins	3
AC power adapter	1
Power cord	1
Ethernet cable	2
Heatsinks for M.2 SSDs	3
Quick Installation Guide (QIG)	1

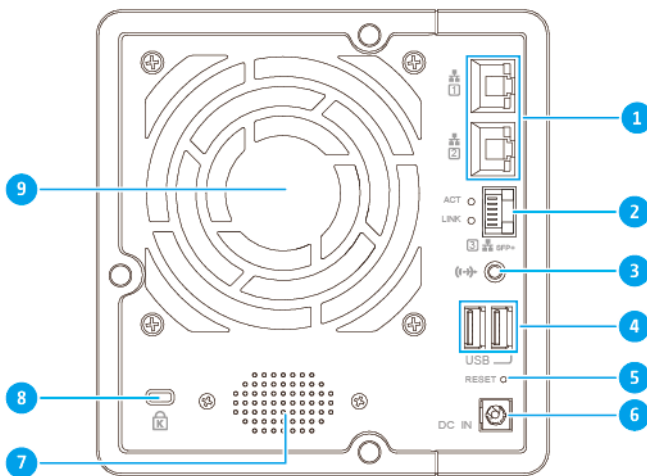
## Components

## Front Panel



No.	Component	No.	Component
1	Status LED	7	M.2 SSD 1 LED
2	LAN LED	8	M.2 SSD 2 LED
3	USB LED	9	M.2 SSD 3 LED
4	Drive 1 LED	10	Power button
5	Drive 2 LED	11	USB One Touch Copy button
6	Drive 3 LED	12	USB One Touch Copy port

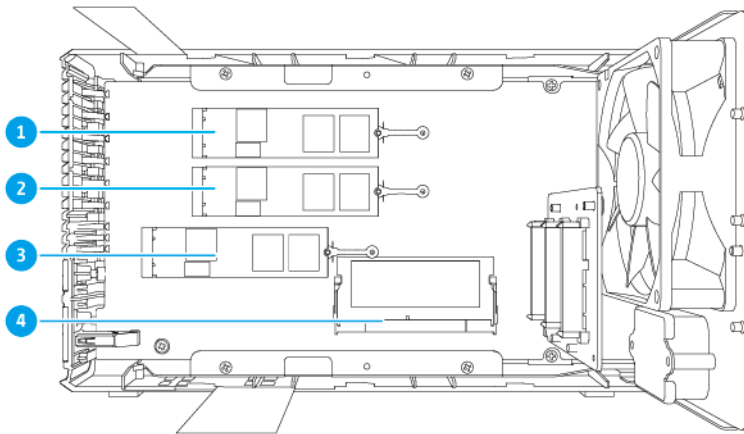
## Rear Panel





No.	Component	No.	Component
1	Gigabit Ethernet RJ45 ports	6	Power input
2	10 Gigabit Ethernet SFP+ port	7	Speaker
3	3.5 mm line-out jack	8	Kensington security slot
4	USB 3.0 Type-A ports	9	Smart fan
5	Reset button	-	-

## Right Panel

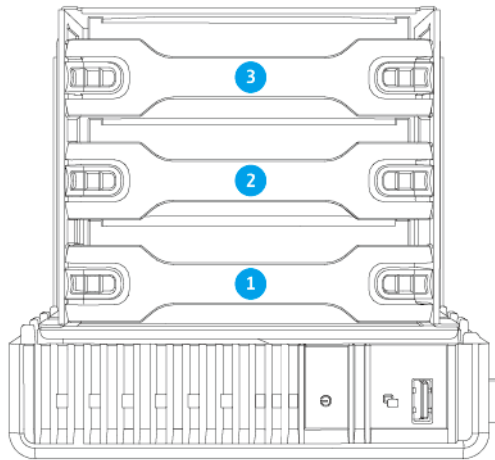


### Note

This image does not include the chassis.

No.	Component	No.	Component
1	M.2 SSD 1	3	M.2 SSD 3
2	M.2 SSD 2	4	Memory slot

## Front Drive Numbering



### Note

This image shows the NAS positioned on its left side.

## 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 with no exposure to direct sunlight, liquids, or chemicals</li> </ul>
Hardware and peripherals	<ul style="list-style-type: none"> <li>Storage drives For details on compatible drives, go to <a href="https://www.qnap.com/compatibility/">https://www.qnap.com/compatibility/</a>.</li> <li>Network cable</li> </ul>
Tools	<ul style="list-style-type: none"> <li>Flat head screwdriver</li> <li>Anti-static wrist strap</li> </ul>

## Setting Up the NAS

1. Place your NAS device in an environment that meets the 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 Drives on 3.5-inch Trays](#)
  - [Installing M.2 Solid-state Drives](#)
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 and replacing memory modules.

#### Drive Installation

The TS-332X is compatible with 3.5-inch and 2.5-inch hard drives, 2.5-inch solid-state drives, and M.2 solid-state drives.

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

The TS-332X comes with a drive tray base that supports 2.5-inch drives. This tray base comes pre-installed in drive bay 3. For details, see [Front Drive Numbering](#).

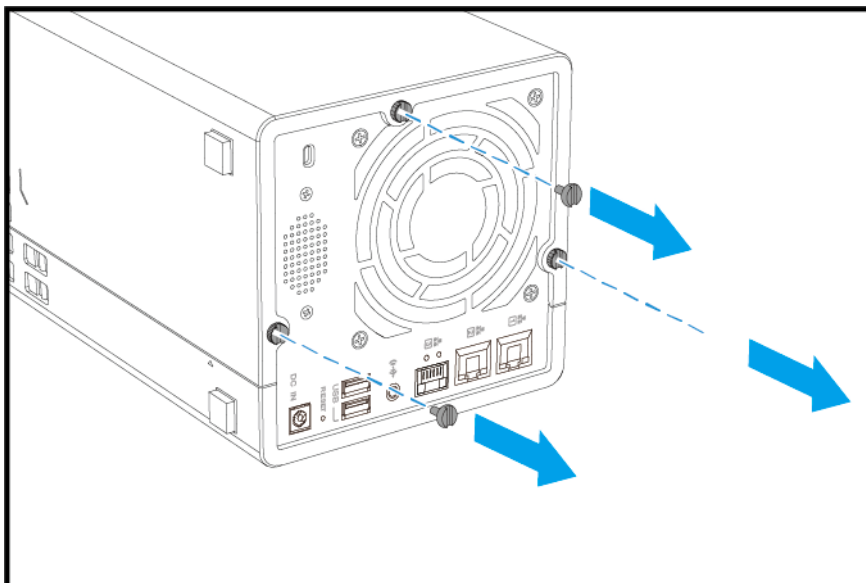
You can disassemble this tray so it can be used for a 3.5-inch hard drive. For details, see [Removing the 2.5-inch Drive Tray Base](#).



#### Warning

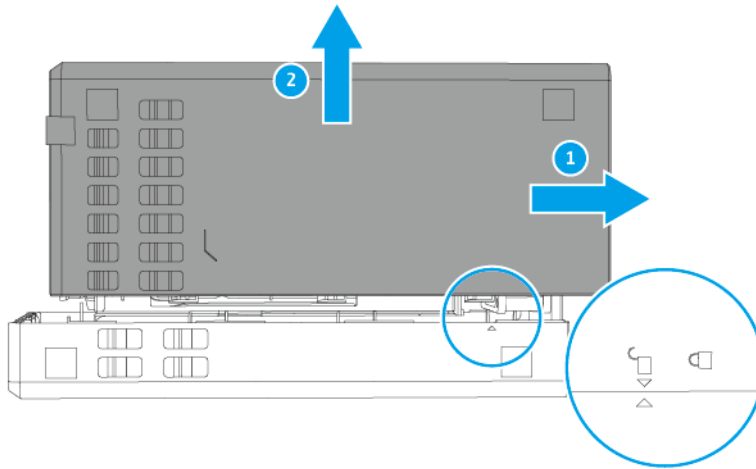
- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Power off the NAS.
2. Remove the case cover.
  - a. Position the NAS on its left side.
  - b. Remove the screws that secure the case cover to the chassis.



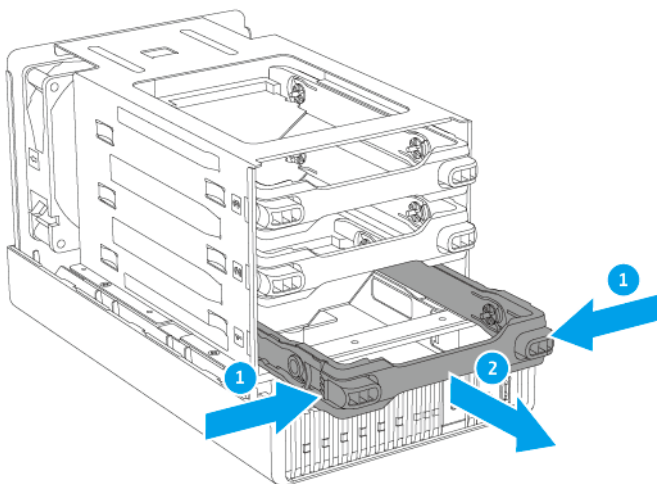
- c. Slide the cover to the right to detach it from the chassis.

- d. Lift the cover off the NAS.



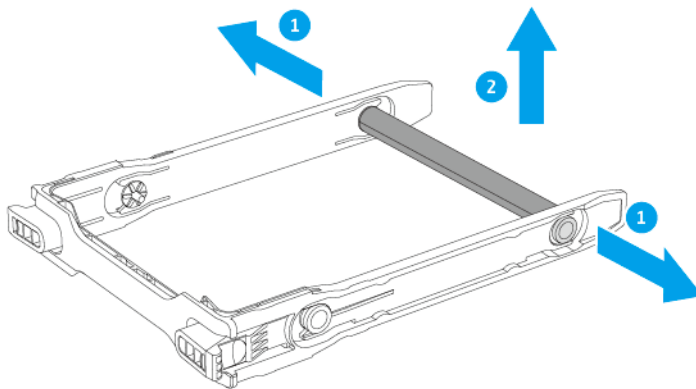
3. Remove a drive tray caddy.

- a. Squeeze the clips.
- b. Pull out the caddy.

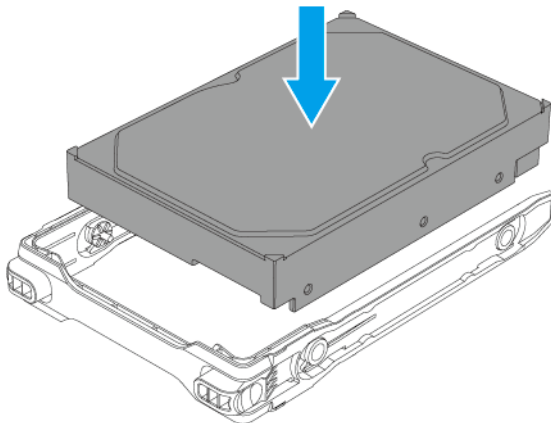


4. Install a drive on the drive tray caddy.

- a. Gently pull the sides of the caddy to release the rod.
- b. Remove the rod.

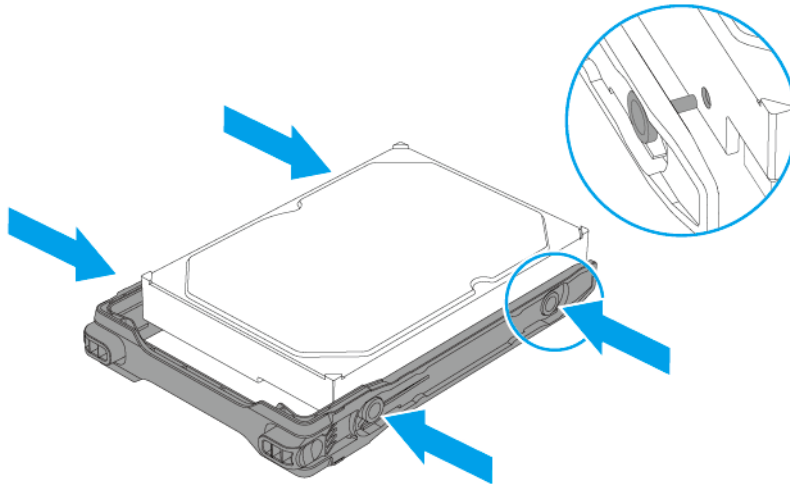


c. Place the drive in the caddy.

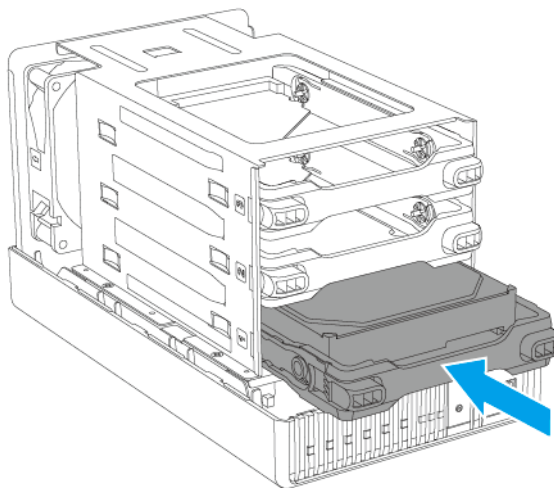


d. Align the holes on the drive with the pins on the caddy.

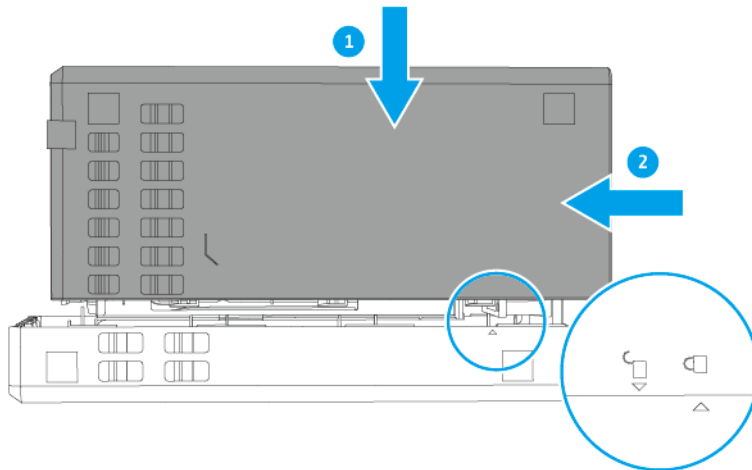
e. Insert the pins.



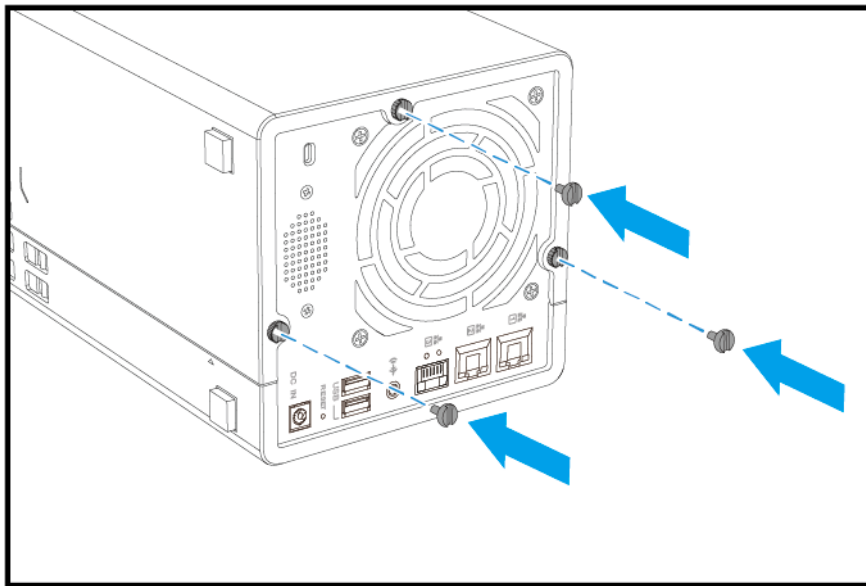
5. Slide the drive tray caddy into the drive bay.



6. Attach the case cover.
  - a. Place the cover on the NAS.
  - b. Align the cover with the grooves on the case.
  - c. Slide the cover to the left to secure it to the chassis.



d. Attach the screws to the back of the NAS.



e. Place the NAS in its normal upright position.

7. Power on the NAS.

### Installing 2.5-inch Drives on 3.5-inch Trays

The TS-332X comes with a drive tray base that supports 2.5-inch drives. This tray comes pre-installed in drive bay 3. For details, see [Front Drive Numbering](#).

You can assemble additional 2.5-inch drive trays using the available tray caddies and additional tray bases. For details, see [Attaching the 2.5-inch Drive Tray Base](#).

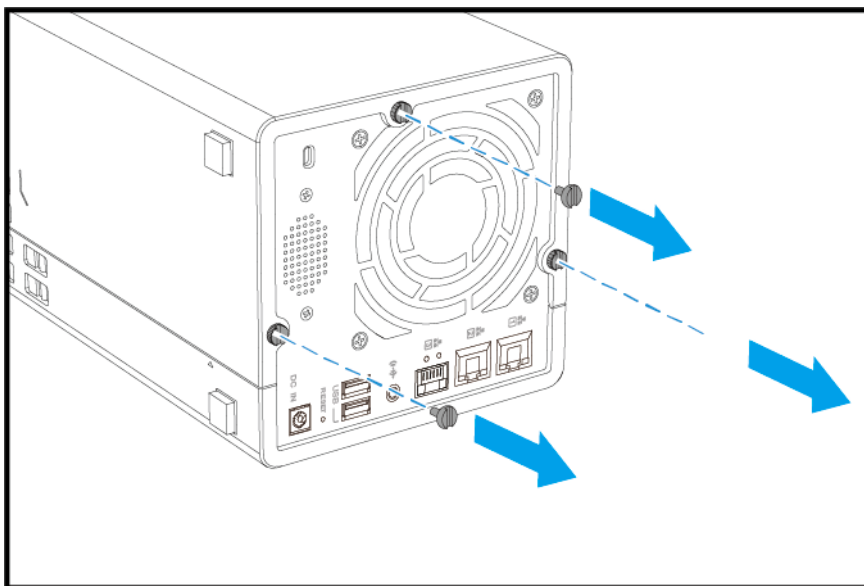


You can purchase additional tray bases from QNAP or an authorized reseller. For details, go to <https://shop.qnap.com/>.

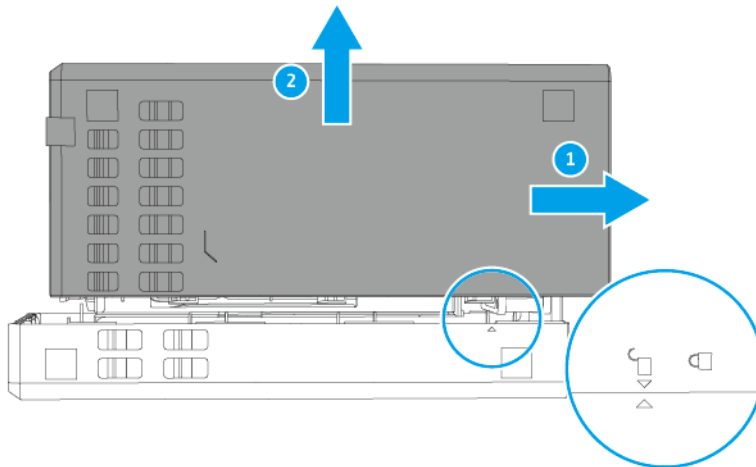
**Warning**

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

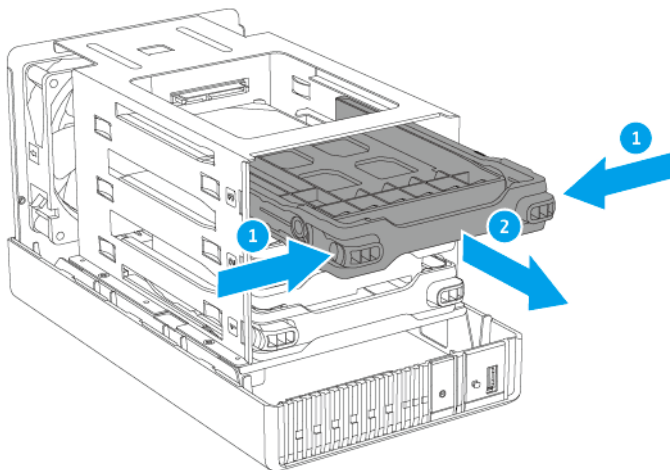
1. Power off the NAS.
2. Remove the case cover.
  - a. Position the NAS on its left side.
  - b. Remove the screws that secure the case cover to the chassis.



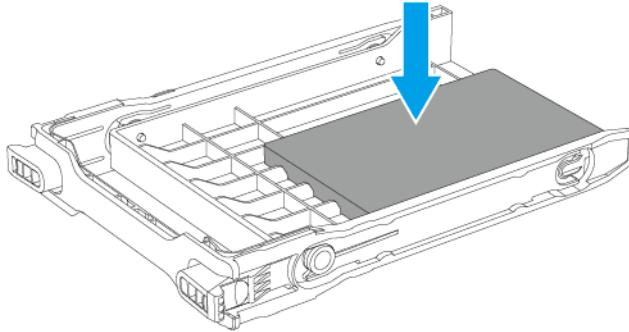
- c. Slide the cover to the right to detach it from the chassis.
- d. Lift the cover off the NAS.



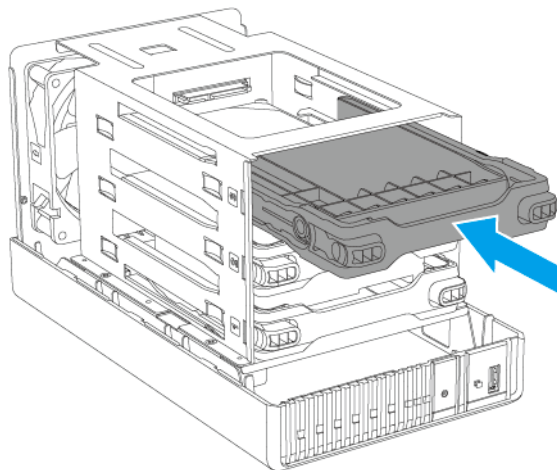
3. Remove a drive tray.
  - a. Squeeze the clips.
  - b. Pull out the tray.



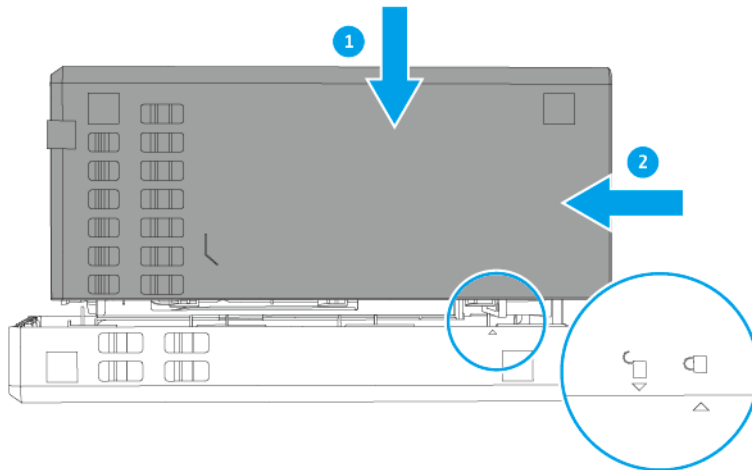
4. Install the drive on the tray.



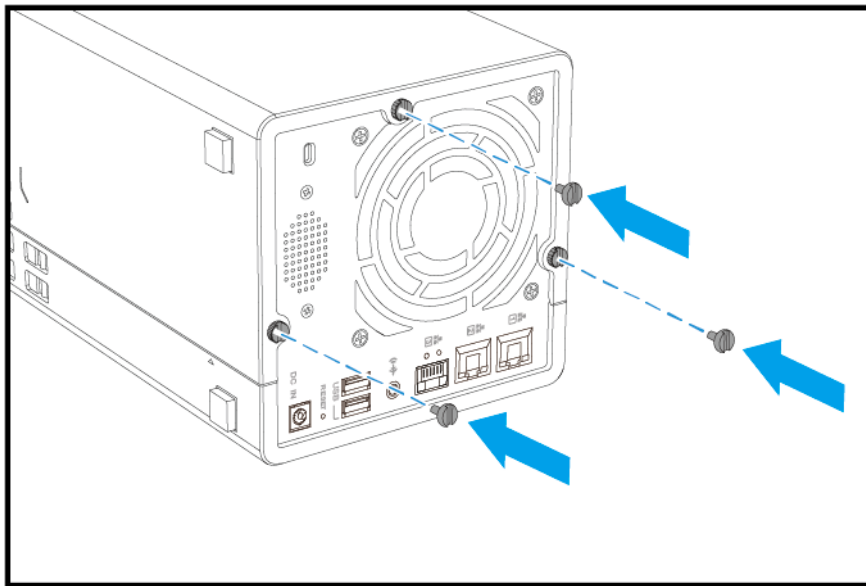
5. Slide the tray into the drive bay.



6. Attach the case cover.
  - a. Place the cover on the NAS.
  - b. Align the cover with the grooves on the case.
  - c. Slide the cover to the left to secure it to the chassis.



d. Attach the screws to the back of the NAS.



e. Place the NAS in its normal upright position.

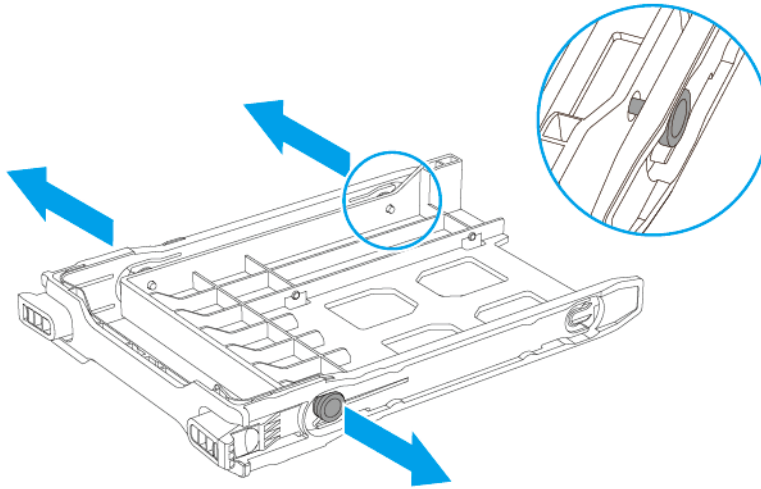
7. Power on the NAS.

### Removing the 2.5-inch Drive Tray Base

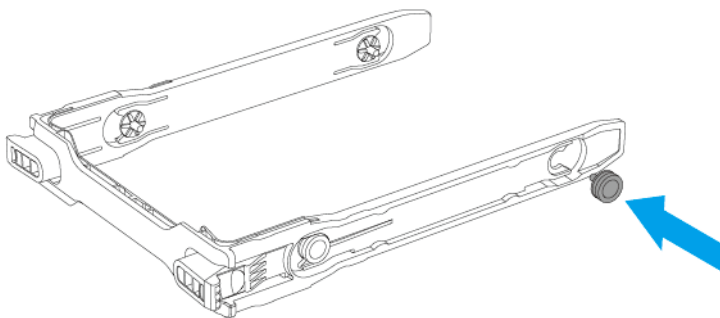
The TS-332X comes with three drive tray caddies and a tray base for 2.5-inch drives.

You can purchase additional tray bases from QNAP or an authorized reseller. For details, go to <https://shop.qnap.com/>.

1. Gently pull the sides of the drive tray caddy to remove the pins from the tray base.



2. Attach the rear right pin to the tray caddy.

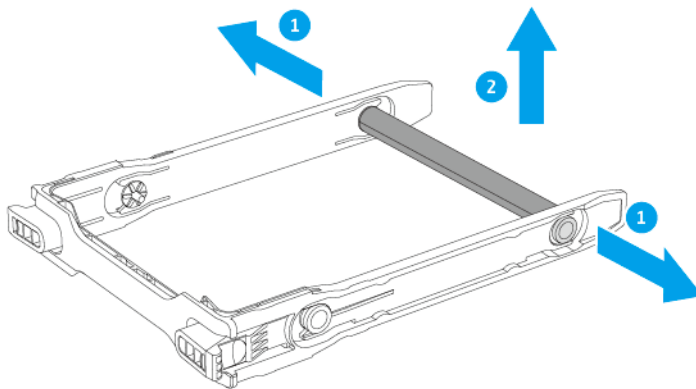


### Attaching the 2.5-inch Drive Tray Base

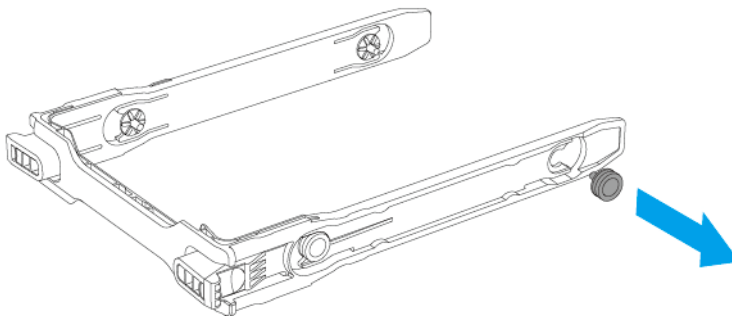
The TS-332X comes with three drive tray caddies and a tray base for 2.5-inch drives.

You can purchase additional tray bases from QNAP or an authorized reseller. For details, go to <https://shop.qnap.com/>.

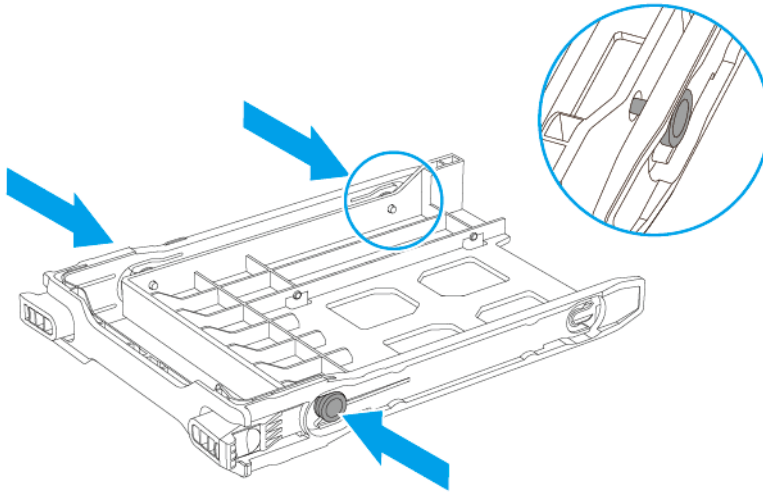
1. Gently pull the sides of the drive tray caddy to release the rod.
2. Remove the rod.



3. Remove the rear right pin from the tray caddy.



4. Align the holes on the tray base with the pins on the caddy.
5. Attach the pins to the tray base.



## Installing M.2 Solid-state Drives

The TS-332X has three M.2 SSD slots. For a list of compatible M.2 SSDs, go to <https://www.qnap.com/compatibility>.

QNAP recommends installing heatsinks on M.2 SSD controllers to enhance cooling efficiency and ensure consistent performance.

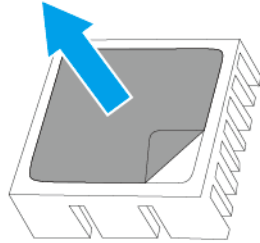
Before installing non-QNAP heatsinks, ensure that they are of the appropriate size and shape.



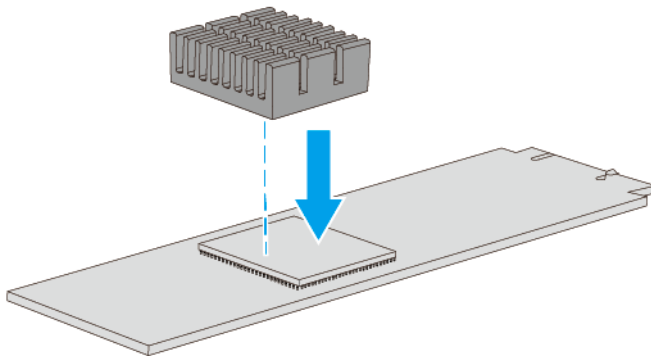
### Warning

- 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.

1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Install a heatsink on the M.2 SSD controller.
  - a. Locate the controller on the M.2 SSD.  
The controller location varies depending on the model and manufacturer of the M.2 SSD. For details, refer to the documentation or contact the manufacturer.
  - b. Remove the protective film from the bottom of the heatsink.

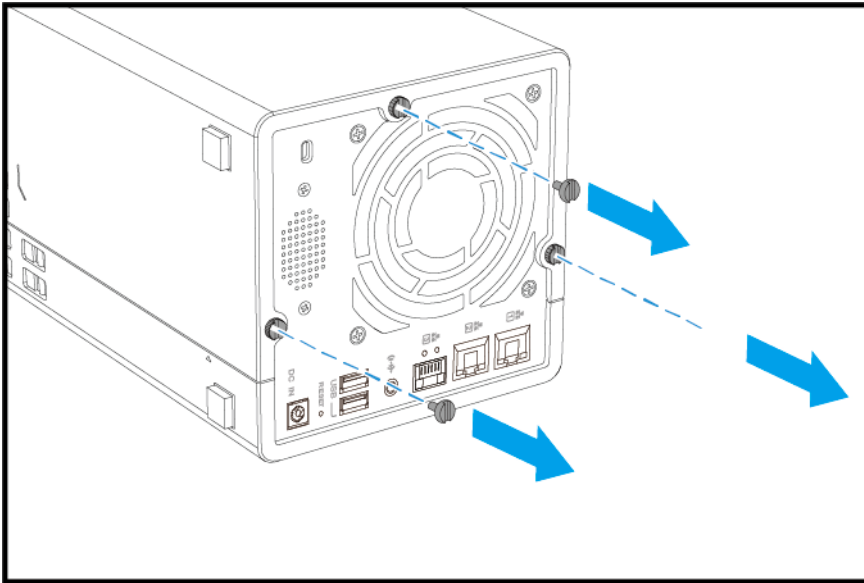


- c. Install the heatsink on the controller.

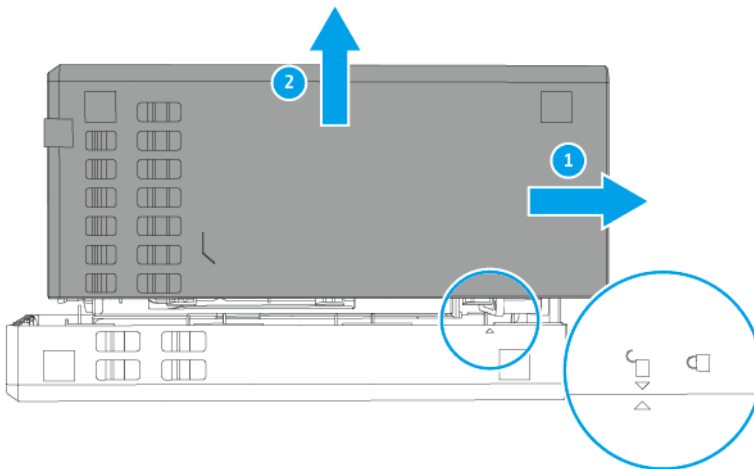


5. Remove the case cover.
  - a. Position the NAS on its left side.
  - b. Remove the screws that secure the case cover to the chassis.

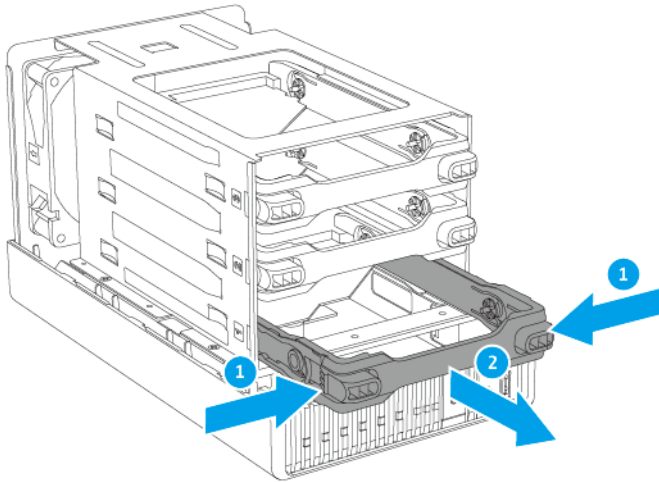




- c. Slide the cover to the right to detach it from the chassis.
- d. Lift the cover off the NAS.

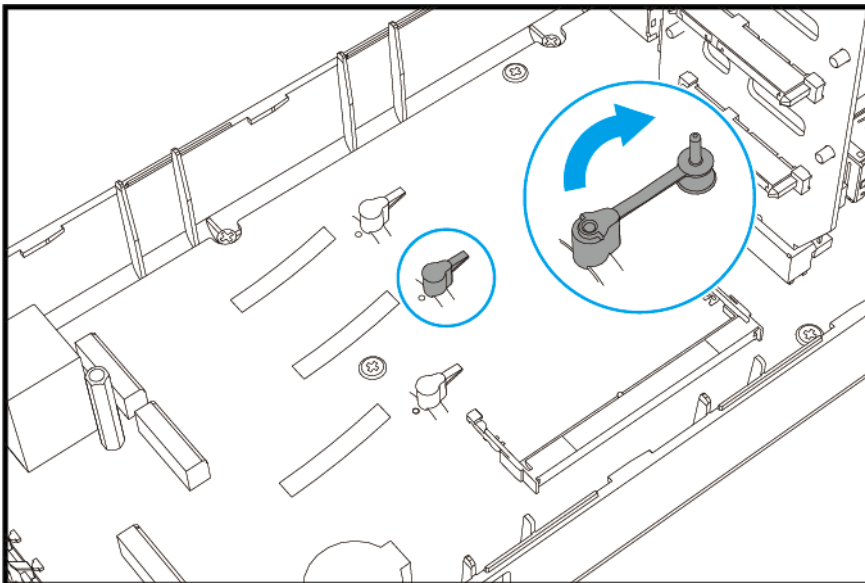


- 6. Remove each drive tray caddy.
  - a. Squeeze the clips.
  - b. Pull out the caddies.

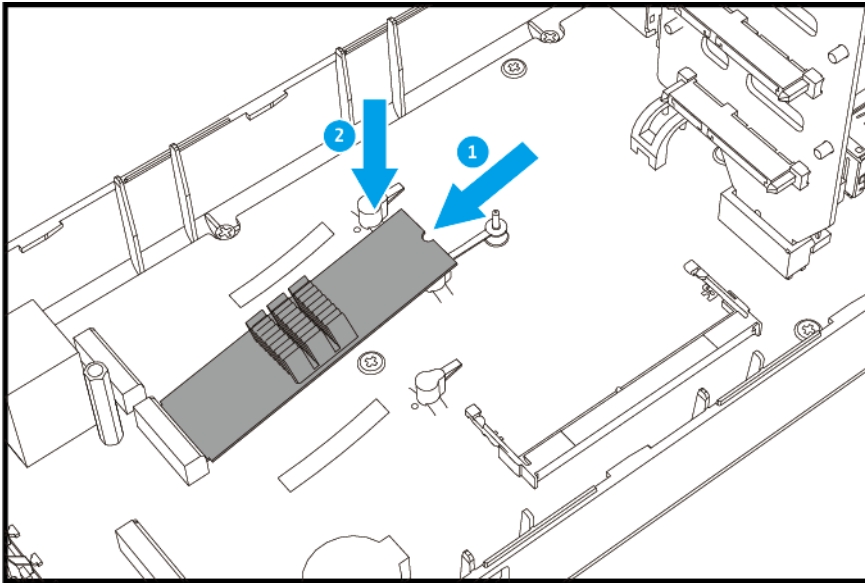


**7. Install the M.2 SSD.**

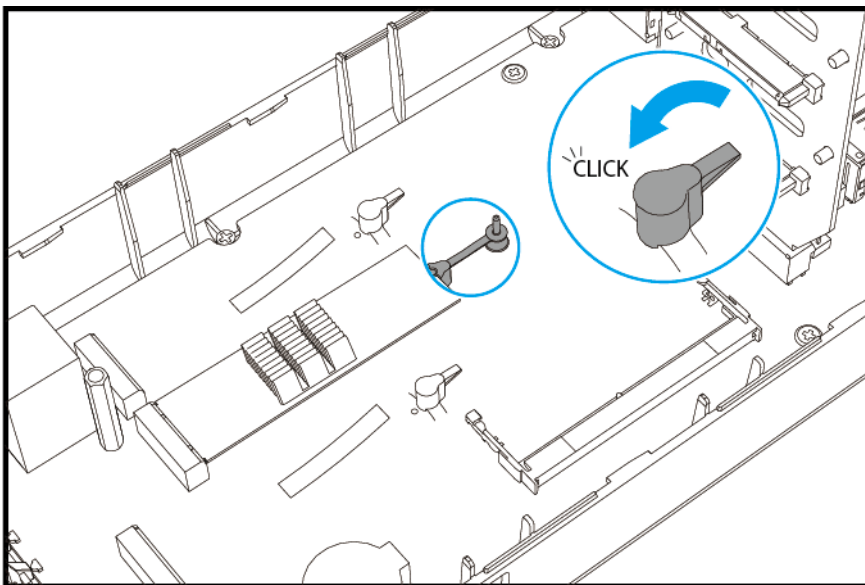
- a. Pull out the pushpin.**



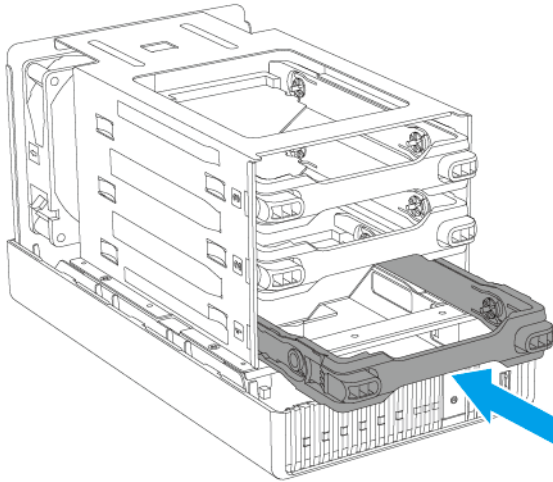
- b. Insert the M.2 SSD.**



c. Insert the pushpin to secure the drive.

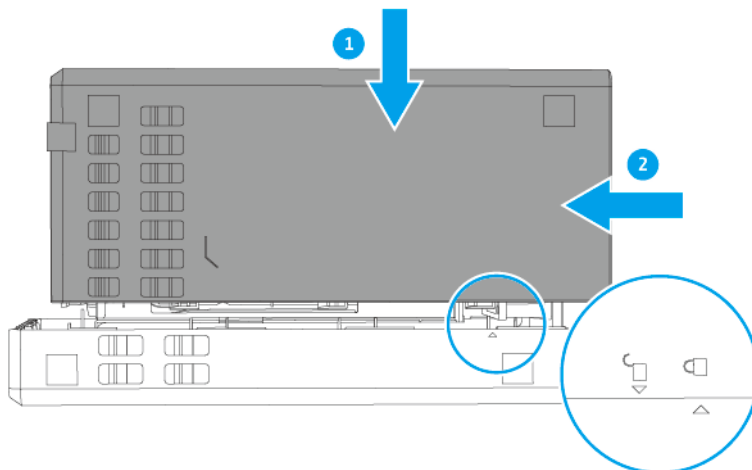


8. Optional: Install additional M.2 SSDs.
9. Slide each drive tray caddy back into the NAS.

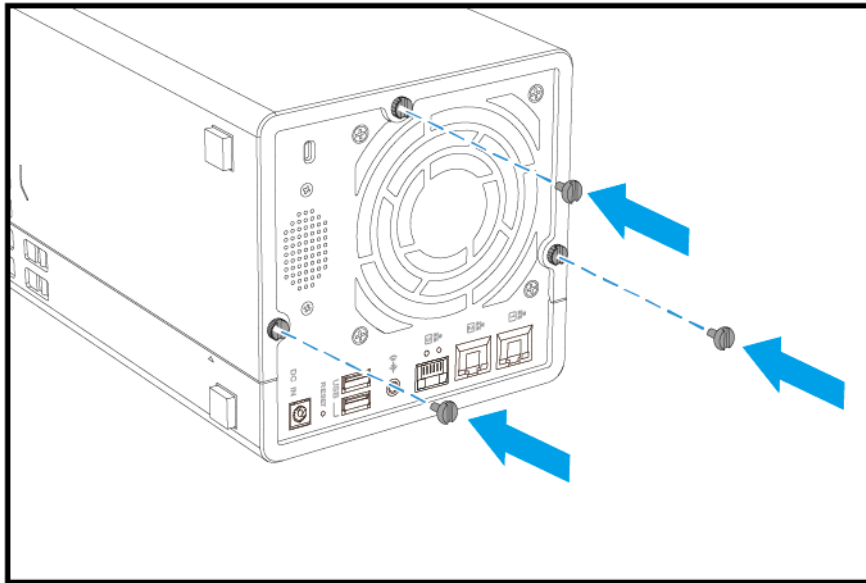


**10. Attach the case cover.**

- a. Place the cover on the NAS.
- b. Align the cover with the grooves on the case.
- c. Slide the cover to the left to secure it to the chassis.



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



e. Place the NAS in its normal upright position.

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

## Replacing Memory Modules

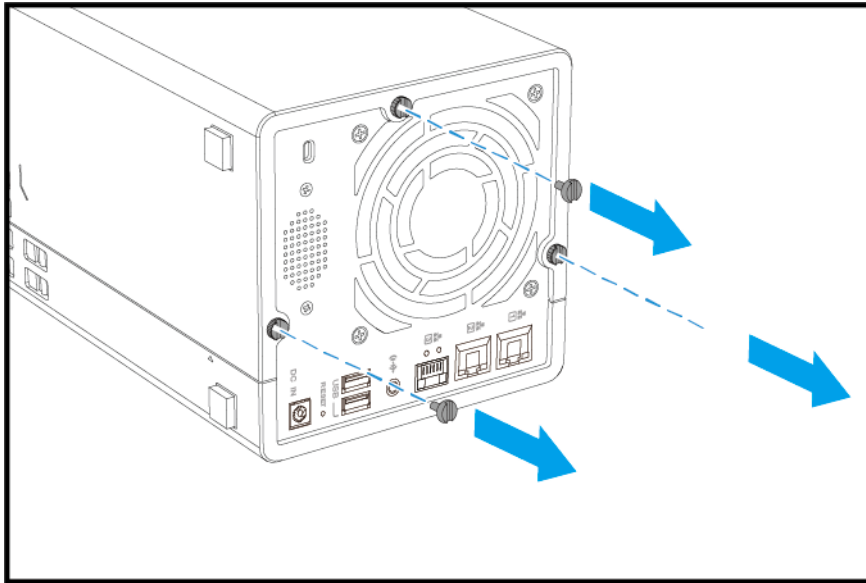
The TS-332X has one memory slot. You can increase the memory capacity of the NAS by upgrading the memory module. QNAP memory modules can be purchased from authorized resellers.



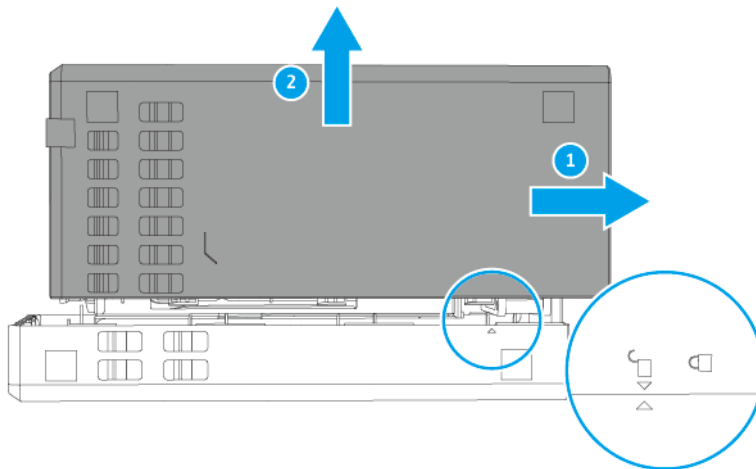
### Warning

- 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.

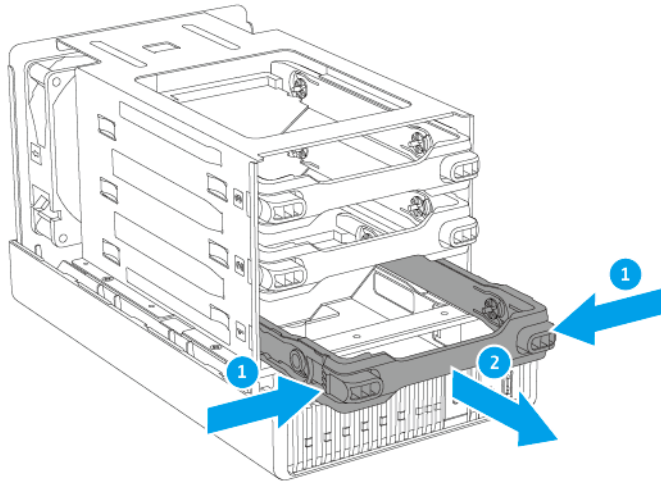
1. Power off the NAS.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
  - a. Position the NAS on its left side.
  - b. Remove the screws that secure the case cover to the chassis.



- c. Slide the cover to the right to detach it from the chassis.
- d. Lift the cover off the NAS.

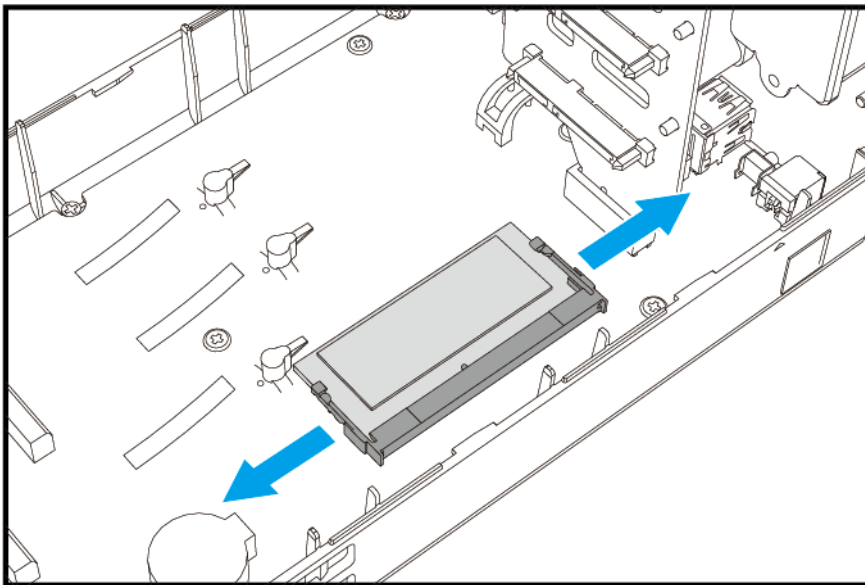


5. Remove each drive tray caddy.
  - a. Squeeze the clips.
  - b. Pull out the caddies.



6. Remove an existing module.

- a. Push the retention clips outward simultaneously to release the module.



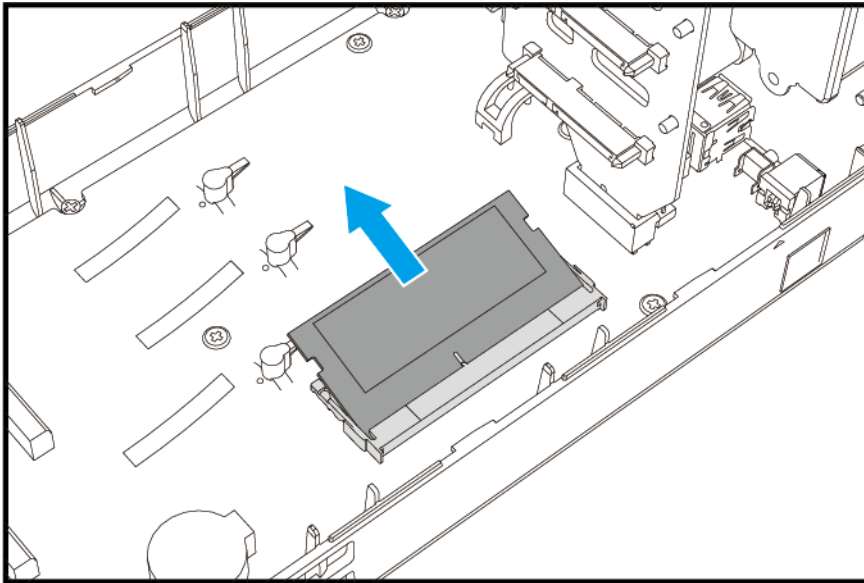
- b. Verify that the module has tilted upward and is completely released from the slot.



**Warning**

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

- c. Hold the edges of the module and carefully pull it out of the slot.

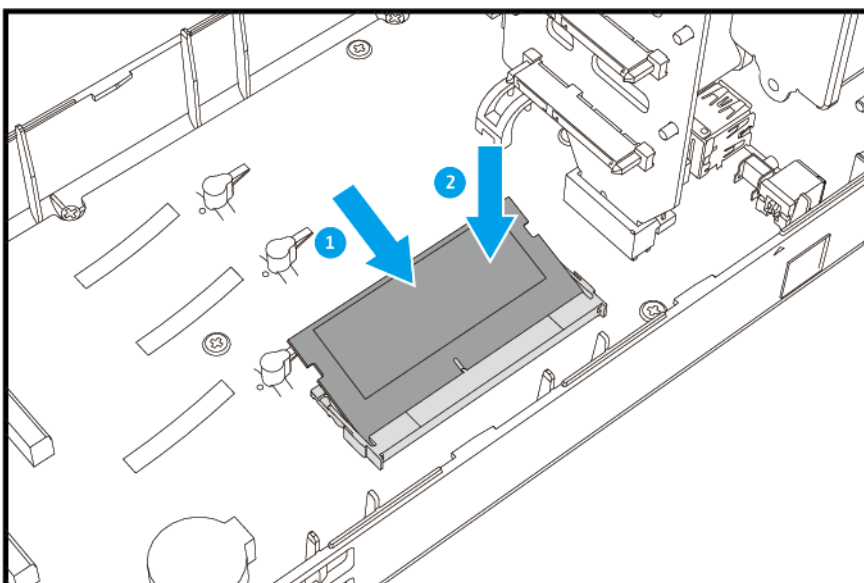


### Warning

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

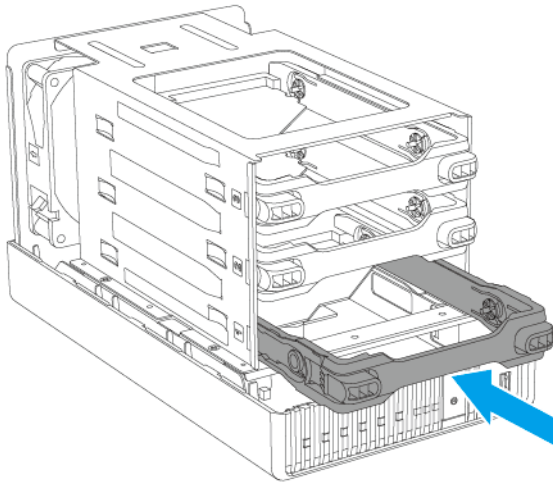
#### 7. Install a new module.

- a. Align the notch with the ridge in the slot.
- b. Insert the module.
- c. Verify that the metal connectors are fully inserted.
- d. Carefully press down on the module until the retention clips lock the module into place.

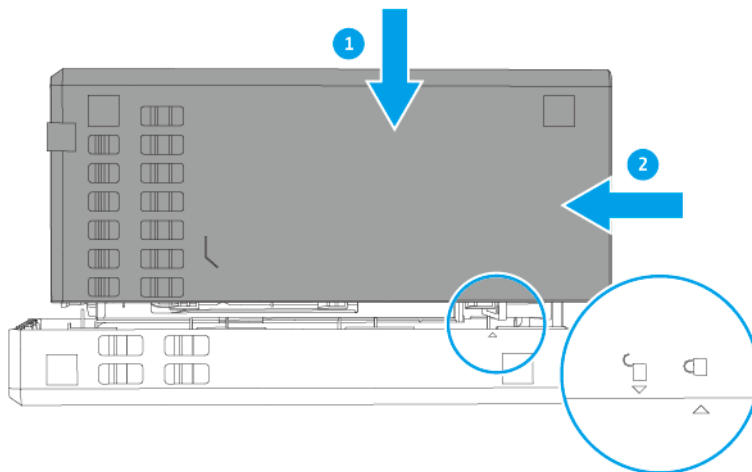




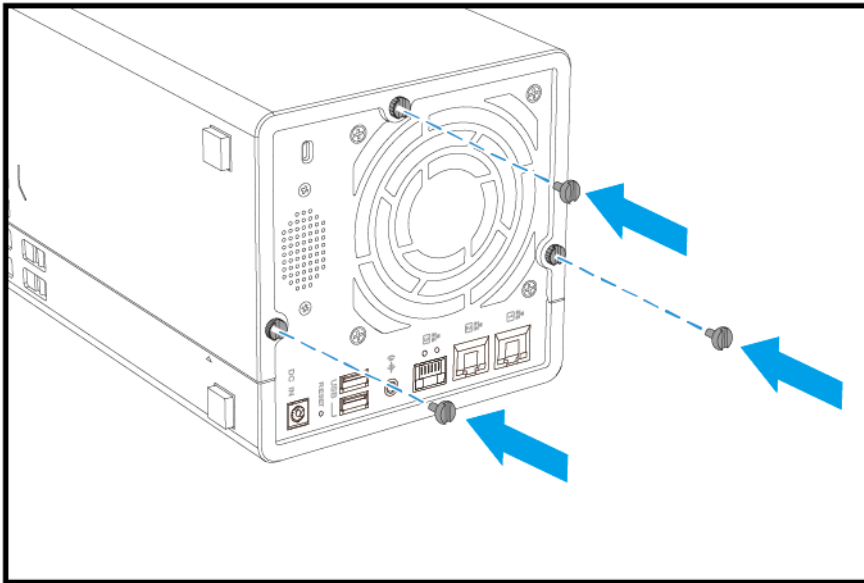
8. Slide each drive tray caddy back into the NAS.



9. Attach the case cover.
  - a. Place the cover on the NAS.
  - b. Align the cover with the grooves on the case.
  - c. Slide the cover to the left to secure it to the chassis.



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



e. Place the NAS in its normal upright position.

10. Connect all cables and external attachments.

11. Connect the power cord to the electrical outlet.

12. Power on the NAS.

13. 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

The TS-332X uses the QNAP QTS operating system. You can install QTS using any of the following methods.

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> <p>For details, see <a href="#">Installing QTS Using Qfinder Pro</a>.</p>	<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>• Log into your myQNAPcloud account.</li> <li>• Use CloudLink to remotely access your NAS.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul> <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>• Network cable</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. Configure the disk settings.
  - a. Select a volume type.
  - b. Select the disks that you want to use to create a RAID group.
  - c. Optional: Select a RAID type.



#### Note

The **Smart Installation Guide** automatically selects the optimal RAID type based on the number of the selected disks.

- d. Optional: Select **Encrypted Disk Volume** and **Bad Block Scan**.
16. Click **Next**.
17. Review the settings.
18. Click **Apply**.  
A confirmation message appears.



#### Warning

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

19. Click **Confirm**.  
QTS is installed.

## Installing QTS Using the Cloud Key



#### Warning

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

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

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

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

**Note**

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

The installation wizard opens in the default web browser.

5. Create an account or sign in to myQNAPcloud.

**Note**

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

6. Specify the myQNAPcloud device name for the NAS.

**Note**

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

7. Optional: Select **CloudLink**.

**Note**

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

8. Click **Next**.

9. 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**.

10. Click **Start Smart Installation Guide**.

11. 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.

12. Click **Next**.

13. 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.

14. Click **Next**.

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

16. Click **Next**.
17. Select the types of devices that you will use to access shared folders on the NAS.
18. Click **Next**.
19. Configure the disk settings.
  - a. Select a volume type.
  - b. Select the disks that you want to use to create a RAID group.
  - c. Optional: Select a RAID type.

**Note**

The **Smart Installation Guide** automatically selects the optimal RAID type based on the number of the selected disks.

- d. Optional: Select **Encrypted Disk Volume** and **Bad Block Scan**.
20. Click **Next**.
21. Review the settings.
22. Click **Apply**.

A confirmation message appears.

**Warning**

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


23. Click **Confirm**.

QTS is installed.

## 4. Basic Operations

This chapter describes basic NAS operations.

### Power Button

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

### Reset Button

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

### 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.

For details on configuring USB One Touch Copy, see the QTS User Guide.

## LEDs

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

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

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



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

## Beep Alarm

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

## 5. Troubleshooting

This chapter describes basic troubleshooting information.

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

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

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

### Hot-swapping Failed Drives

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

- RAID 1: One member drive fails
  - RAID 5: One member drive fails
  - RAID 6: One or two member drives fail
1. Log on to QTS.
  2. Go to **Main Menu > Storage & 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 > Storage/Snapshots** .
  11. Locate the volume that contains the new drive and then verify that the status is `Rebuilding`.

## Recovering Unintentionally Removed Healthy Drives

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

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

## Support and Other Resources

QNAP provides the following resources:

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

## 6. Glossary

### **CloudKey**

Unique 8-digit code assigned to each NAS device

### **CloudLink**

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

### **myQNAPcloud**

Provides various remote access services such as DDNS and CloudLink

### **myQNAPcloud ID**

Email address that was used to register for a myQNAPcloud account

### **Qfinder Pro**

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

### **QTS**

QNAP NAS operating system

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Version 3, 29 June 2007

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

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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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