



QNAP

TVS-x72X

TVS-672X
TVS-872X

User Guide

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1. Preface





About This Guide

This guide provides information about the device 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 device.

About the TVS-x72X

The TVS-x72X is a high-performance NAS powered by an Intel® Core™ i3 processor and supports up to 64 GB of DDR4 memory. The TVS-x72X comes in 6-drive bay and 8-drive bay models. It features an HDMI port for external displays and a USB One Touch Copy port for quick backup and data transfer, with a built-in 10GbE connectivity port that provides multiple network speeds for boosted virtualization performance. The TVS-x72X also supports M.2 NVMe SSDs for cache acceleration and two PCIe expansion slots to expand the NAS application capacity.

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](#).








Tip

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

| Ordering P/N | Drive bays | Memory | Power supply |
|----------------|------------|--------|--------------|
| TVS-672X-i3-8G | 6 | 8 GB | Single |
| TVS-872X-i3-8G | 8 | 8 GB | Single |

| Component | TVS-672X-i3-8G | TVS-872X-i3-8G |
|----------------------|--|----------------|
| Processor | | |
| CPU | Intel® Core™ i3-8100T | |
| Frequency | 4 core/4-thread/3.1 GHz | |
| Architecture | x86 64-bit | |
| Encryption engine | AES-NI | |
| Memory | | |
| Pre-installed memory | 8 GB RAM: 1 x 8 GB DDR4 SODIMM | |
| Memory slots | 2 x DDR4 SODIMM | |
| |  Important <ul style="list-style-type: none"> 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. Using unsupported modules may degrade performance, cause errors, or prevent the operating system from starting. | |

| Component | TVS-672X-i3-8G | TVS-872X-i3-8G |
|--------------------------------------|--|-----------------------------|
| Maximum memory | 64 GB RAM: 2 x 32 GB | |
| Flash memory | 5 GB (dual-boot OS protection) | |
| Storage | | |
| Drive bays | 6 x 3.5-inch SATA 6 Gbps | 8 x 3.5-inch SATA 6 Gbps |
| |  Tip The drive bays are backward compatible with SATA 3 Gbps drives. | |
| Drive compatibility | 3.5-inch bays: <ul style="list-style-type: none"> • 3.5-inch SATA hard disk drives • 2.5-inch SATA hard disk drives • 2.5-inch SATA solid-state drives | |
| M.2 SSD slots | 2 x PCIe Gen 3 x 2 NVMe | |
| M.2 SSD form factor | 2280 | |
| SSD cache acceleration support | 3.5-inch drive bays: 1 to 6 | 3.5-inch drive bays: 1 to 8 |
| | <ul style="list-style-type: none"> • M.2 SSD slots: 1 to 2 • M.2 SSD slots on an M.2 SSD expansion card | |
| Hot-swapping | The device supports hot-swapping drives except for the following: <ul style="list-style-type: none"> • M.2 SSDs • SSD cache drives | |
| Network | | |
| 10 Gigabit Ethernet port | 1 x 10 GBase-T RJ45  Note This 10 GBase-T port provides 5 network connection speeds: 10G, 5G, 2.5G, 1G, and 100 M. | |
| Gigabit Ethernet ports | 2 x GbE RJ45 | |
| Wake-on-LAN | No | |
| External I/O Ports & Expansion Slots | | |
| PCIe slots | <ul style="list-style-type: none"> • 1 x PCIe 3.0 x16 • 1 x PCIe 3.0 x4 (PCH) | |
| USB ports | Front: 1 x USB 3.2 Gen 2 (10Gbps) 5V/1A Type-A  Note This USB port supports One Touch Copy. Rear: <ul style="list-style-type: none"> • 1 x USB 3.2 Gen 2 (10Gbps) 5V/1A Type-A • 1 x USB 3.2 Gen 1 Type-A • 2 x USB 3.2 Gen 2 (10Gbps) 5V/3A Type-C | |

| Component | TVS-672X-i3-8G | TVS-872X-i3-8G |
|------------------------|--|---|
| HDMI ports | 1 x HDMI 2.0 (up to 3840 x 2160 resolution at 60Hz) | |
| Interface | Monochrome backlit LCD display | |
| IR sensor | 1 | |
| |  Note The IR sensor requires a graphics card. The QNAP RM-IR004 remote control is an optional separate purchase. | |
| Buttons | <ul style="list-style-type: none"> • LCD enter • LCD select • Power • Reset • USB One Touch Copy | |
| Dimensions | | |
| Form factor | Tower | |
| Dimensions (H x W x D) | 188.2 x 264.3 x 279.6 mm (7.41 x 10.41 x 11.01 in) | 188.2 x 329.3 x 279.6 mm (7.41 x 12.96 x 11.01 in) |
| Net weight | 8.07 kg (17.79 lbs) | 9.19 kg (20.26 lbs) |
| Others | | |
| Power supply unit | 250W, 100-240V AC, 50/60 Hz | |
| System battery | CR2032 lithium battery (3V, 225 mAh) | |
| Sound level | 23.8 dB(A) | 24.2 dB(A) |
| |  Note 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 | <ul style="list-style-type: none"> • System: 1 x 120mm, 12V DC fan • CPU: 2 x 60mm blower fans | <ul style="list-style-type: none"> • System: 2 x 120mm, 12V DC fans • CPU: 2 x 60mm blower fans |
| Operating temperature | 0°C to 40°C (32°F to 104°F) | |
| Relative humidity | <ul style="list-style-type: none"> • Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F) | |
| Security slot | Kensington security slot | |

**Tip**

For the list of compatible expansion cards, go to <https://www.qnap.com/compatibility>

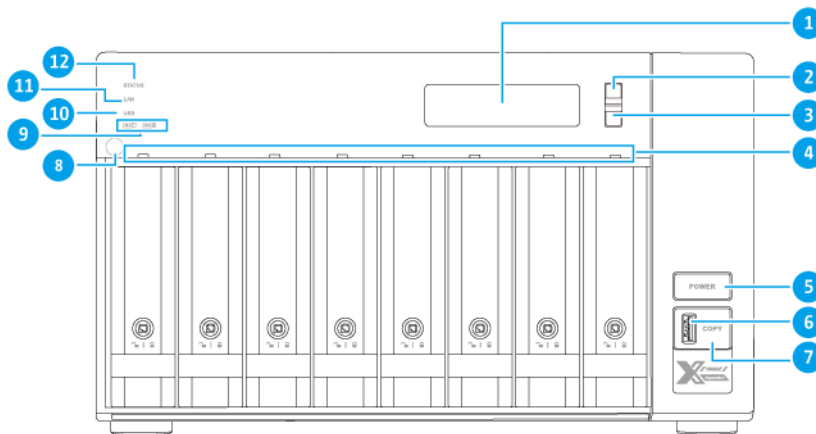
Package Contents

| Item | Quantity |
|----------|----------|
| TVS-x72X | 1 |

| Item | Quantity |
|--------------------------------|--|
| Power cord | 1 |
| Ethernet cables | 1 x 10 GbE (Cat 6a) |
| Screws for 3.5-inch drives | <ul style="list-style-type: none"> • TVS-672X: 18 • TVS-872X: 24 |
| Screws for 2.5-inch drives | <ul style="list-style-type: none"> • TVS-672X: 18 • TVS-872X: 24 |
| Drive tray keys | 2 |
| Heatsinks for M.2 SSDs | 2 |
| Quick Installation Guide (QIG) | 1 |

Components

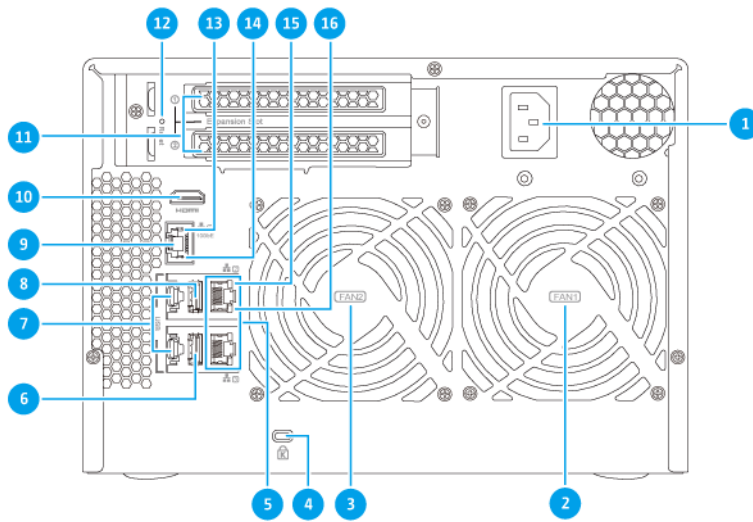
Front Panel



TVS-x72X

| No. | Component | No. | Component |
|-----|--|-----|---------------------------|
| 1 | LCD panel | 7 | USB One Touch Copy button |
| 2 | LCD enter button | 8 | IR sensor |
| 3 | LCD select button | 9 | M.2 SSD LEDs |
| 4 | Drive LEDs | 10 | LAN LED |
| 5 | Power button | 11 | USB LED |
| 6 | USB 3.2 Gen 2 One Touch Copy Type-A port | 12 | Status LED |

Rear Panel



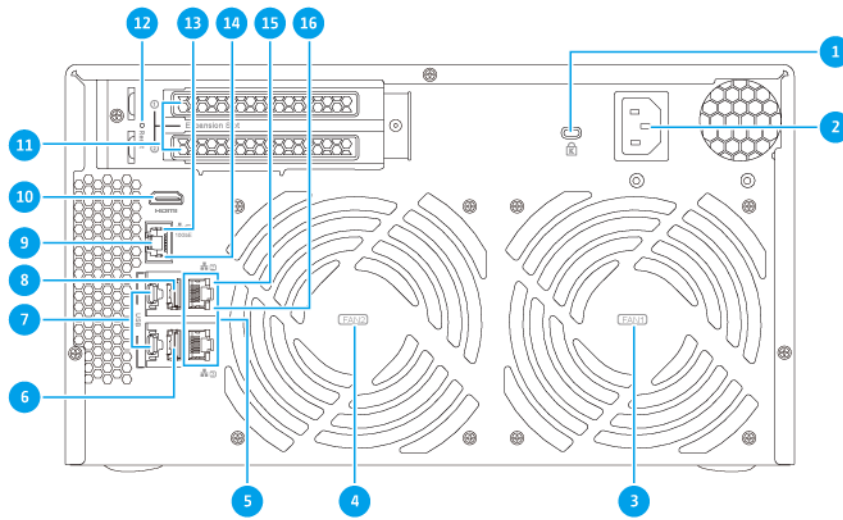
TVS-672X



Tip

Only Gigabit Ethernet ports support Wake-on-LAN configurations.

| No. | Component | No. | Component |
|-----|---|-----|----------------------------------|
| 1 | Power input | 9 | 10 Gigabit Ethernet port (RJ45) |
| 2 | System fan 1 | 10 | HDMI 2.0 port |
| 3 | System fan 2 | 11 | PCIe full-height covers |
| 4 | Kensington security slot | 12 | Reset button |
| 5 | Gigabit Ethernet ports (RJ45) | 13 | 10 Gigabit Ethernet activity LED |
| 6 | USB 3.2 Gen 2 5V/1A (10Gbps) Type-A port | 14 | 10 Gigabit Ethernet speed LED |
| 7 | USB 3.2 Gen 2 5V/3A (10Gbps) Type-C ports | 15 | Gigabit Ethernet activity LED |
| 8 | USB 3.2 Gen 1 Type-A port | 16 | Gigabit Ethernet speed LED |



TVS-872X

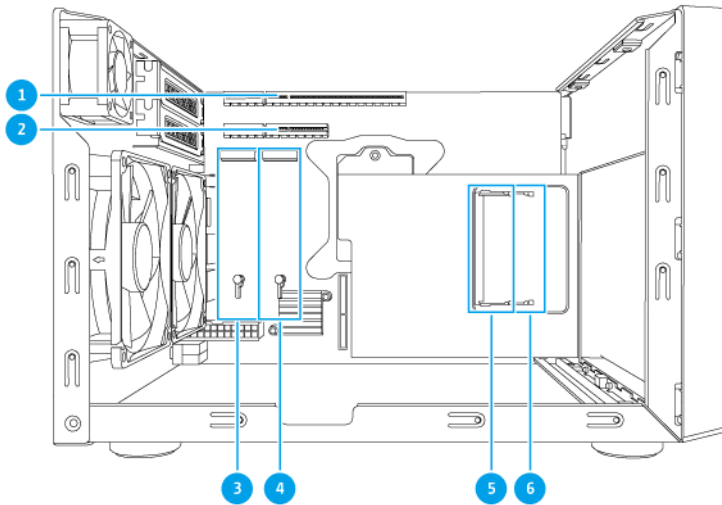


Tip

Only Gigabit Ethernet ports support Wake-on-LAN configurations.

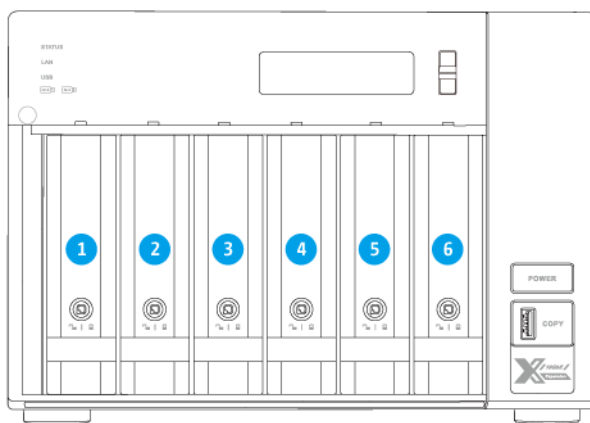
| No. | Component | No. | Component |
|-----|---|-----|----------------------------------|
| 1 | Kensington security slot | 9 | 10 Gigabit Ethernet port (RJ45) |
| 2 | Power input | 10 | HDMI 2.0 port |
| 3 | System fan 1 | 11 | PCIe full-height covers |
| 4 | System fan 2 | 12 | Reset button |
| 5 | Gigabit Ethernet ports (RJ45) | 13 | 10 Gigabit Ethernet activity LED |
| 6 | USB 3.2 Gen 2 5V/1A (10Gbps) Type-A port | 14 | 10 Gigabit Ethernet speed LED |
| 7 | USB 3.2 Gen 2 5V/3A (10Gbps) Type-C ports | 15 | Gigabit Ethernet activity LED |
| 8 | USB 3.2 Gen 1 Type-A port | 16 | Gigabit Ethernet speed LED |

System Board

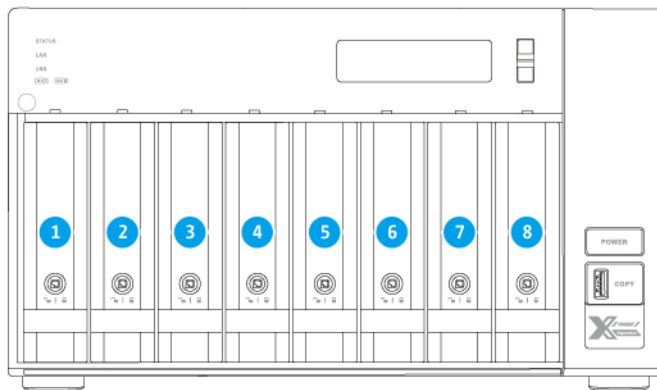


| No. | Component | No. | Component |
|-----|----------------------------|-----|----------------|
| 1 | PCIe slot 1 (PCIe 3.0 x16) | 4 | M.2 SSD slot 1 |
| 2 | PCIe slot 2 (PCIe 3.0 x4) | 5 | Memory slot 1 |
| 3 | M.2 SSD slot 2 | 6 | Memory slot 2 |

Drive Numbering



TVS-672X



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Safety Information

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

General Instructions

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

Power

- To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.
- To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

System Battery

- This product contains a button battery.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- Keep batteries out of reach of children.
- If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.
- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.

Moving Parts

-



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

-



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

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

Installation Requirements

| Category | Item |
|--------------------------|---|
| Environment | <ul style="list-style-type: none"> • Room temperature: 0°C to 40°C (32°F to 104°F) • Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F) • Flat, anti-static surface without exposure to direct sunlight, liquids, or chemicals • Free from objects that may obstruct NAS ventilation or apply pressure to the NAS or power cord |
| Hardware and peripherals | <ul style="list-style-type: none"> • Storage drives For the list of compatible drive models, go to https://www.qnap.com/compatibility. • Network cable |
| Tools | <ul style="list-style-type: none"> • Phillips #1 or #2 screwdriver • Flat head screwdriver • Anti-static wrist strap |

Setting Up the NAS



Important

Read all safety requirements and 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. Verify that the intake vents on the bottom of the case are unobstructed.
3. Install the drives.
For details, see the following topics:
 - [Installing 3.5-inch Drives on 3.5-inch Trays](#)
 - [Installing 2.5-inch Drives on 3.5-inch Trays](#)
 - [Installing M.2 Solid-State Drives](#)
4. Optional: Install expansion cards.
For details, see [Installing Expansion Cards](#).
5. Optional: Connect the expansion units.
For details, see [Expansion Unit Installation](#).
6. Connect the power cord and all applicable cables.
7. Power on the NAS.
8. Install 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 TVS-x72X 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 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 drive tray.
 - a. Optional: Unlock the tray.



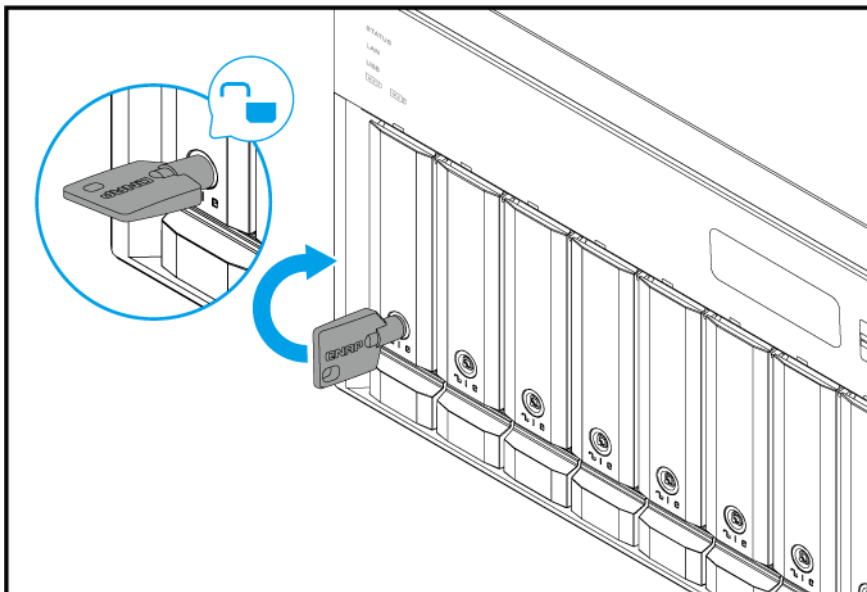
Note

The preinstalled drive trays come unlocked.



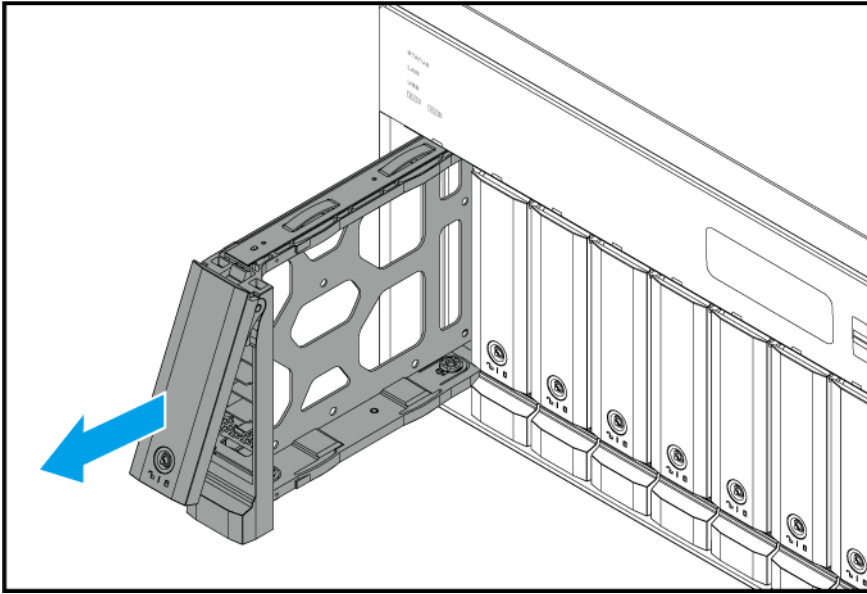
Important

Ensure the drive tray keys are stored in a safe place.



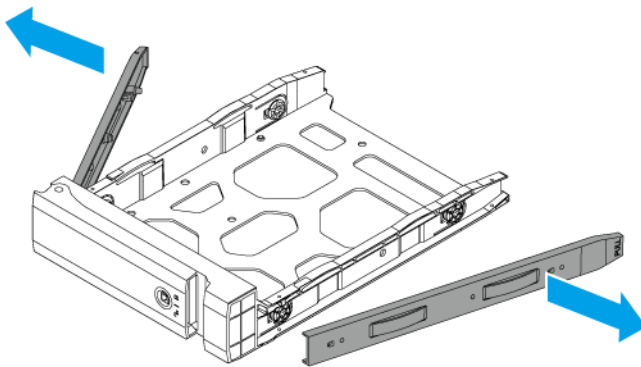
- b. Pull the handle to release the tray.

- c. Pull the tray out.

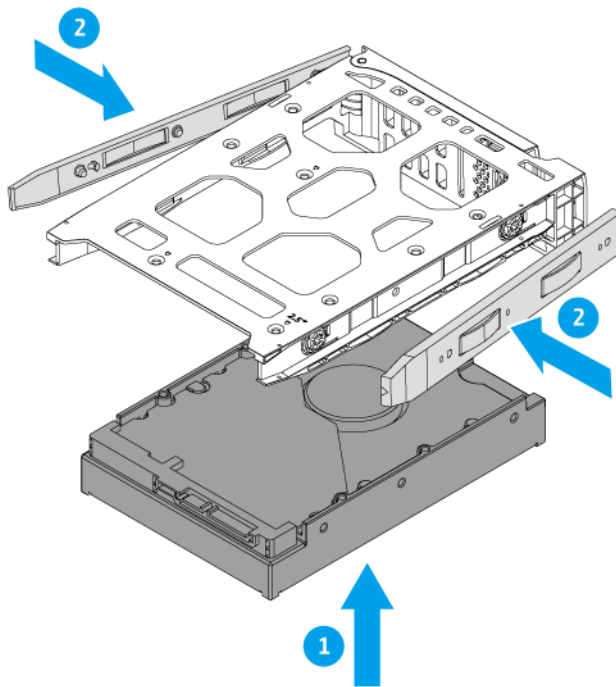


3. Install a drive on the tray.

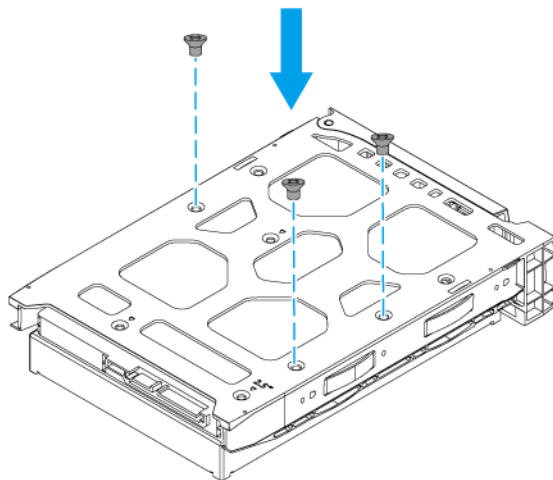
- a. Remove the fastening panels from the sides of the drive tray.



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



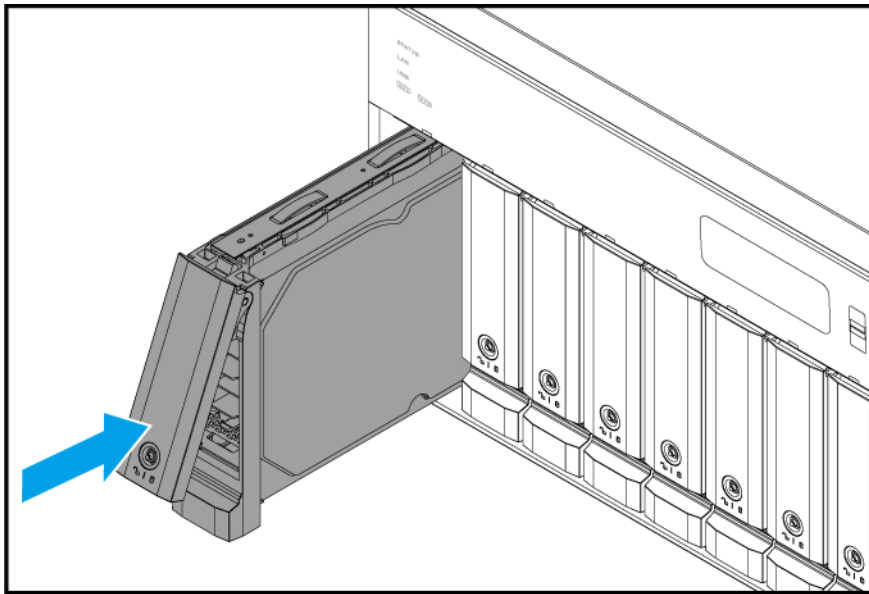
d. Optional: Attach the screws.



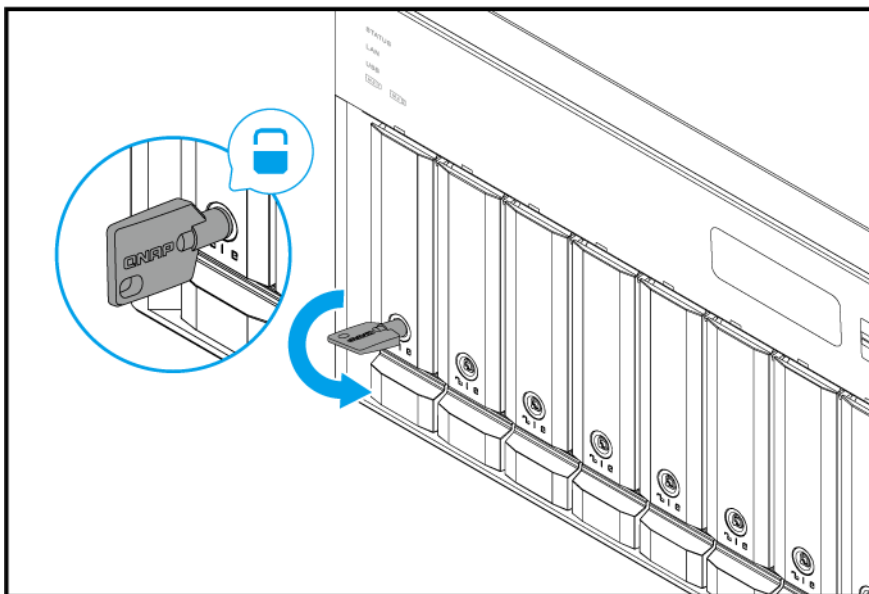
Important

QNAP recommends attaching the screws to the drive trays during transport.

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



c. Lock the tray.



5. Power on the NAS.

Installing 2.5-inch 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 drive tray.

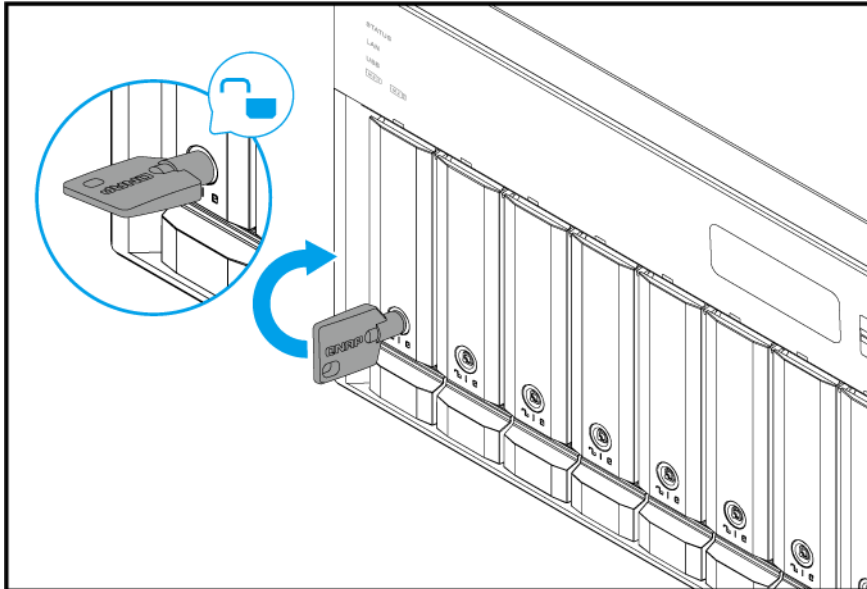
- a. Optional: Unlock the tray.

**Note**

The preinstalled drive trays come unlocked.

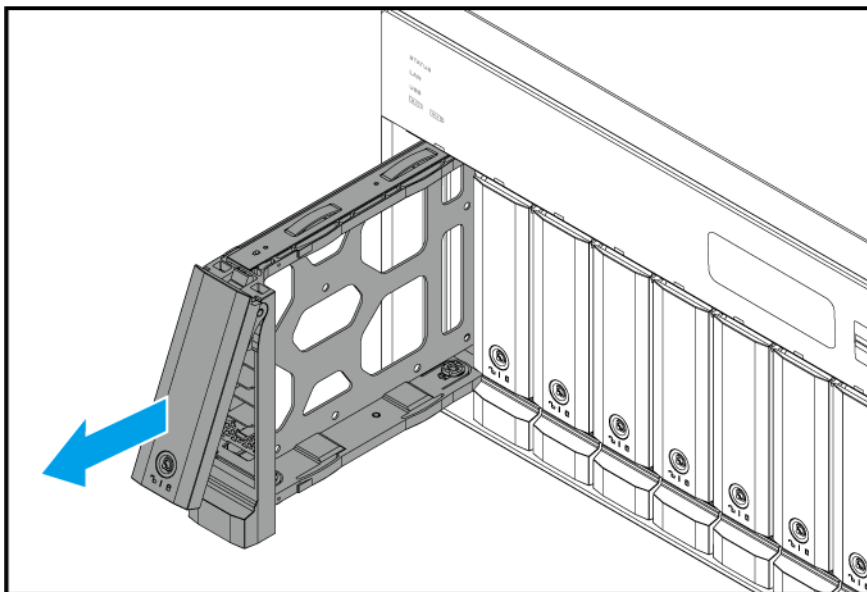
**Important**

Ensure the drive tray keys are stored in a safe place.



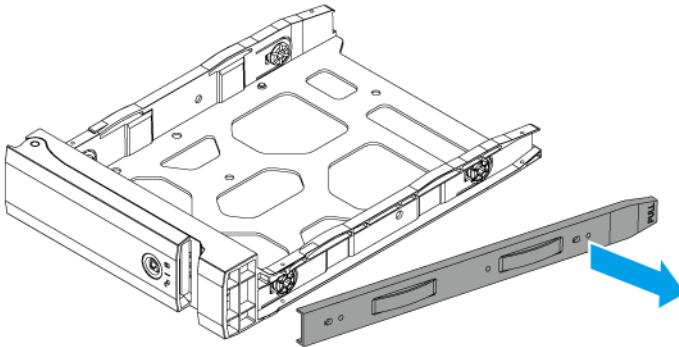
- b. Pull the handle to release the tray.

- c. Pull the tray out.



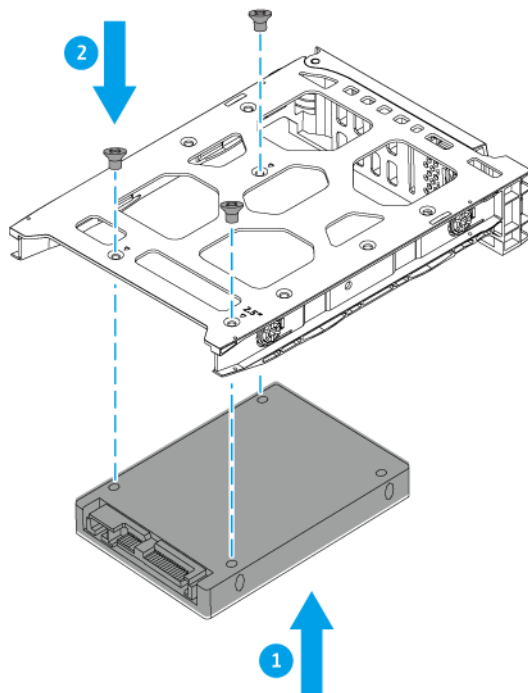
3. Install a drive on the tray.

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

**Important**

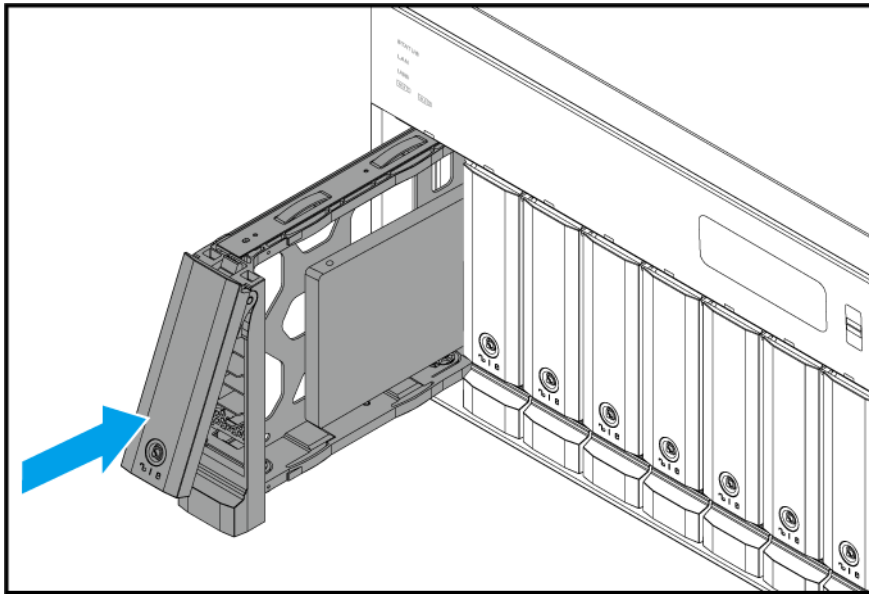
QNAP recommends attaching the screws to the drive trays during transport.

- 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.

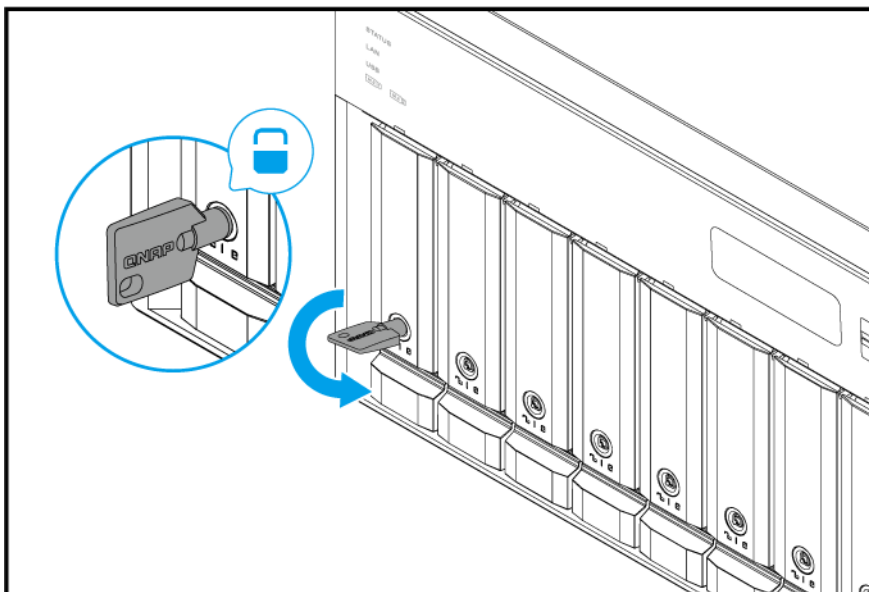


- 4.** Load the tray into the bay.

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



- c. Lock the tray.



5. Power on the NAS.

Installing M.2 Solid-State Drives

The device has two M.2 SSD slots on the system board.

For details, see [System Board](#).

For a list of compatible M.2 SSDs, go to <https://www.qnap.com/compatibility>.



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.

-



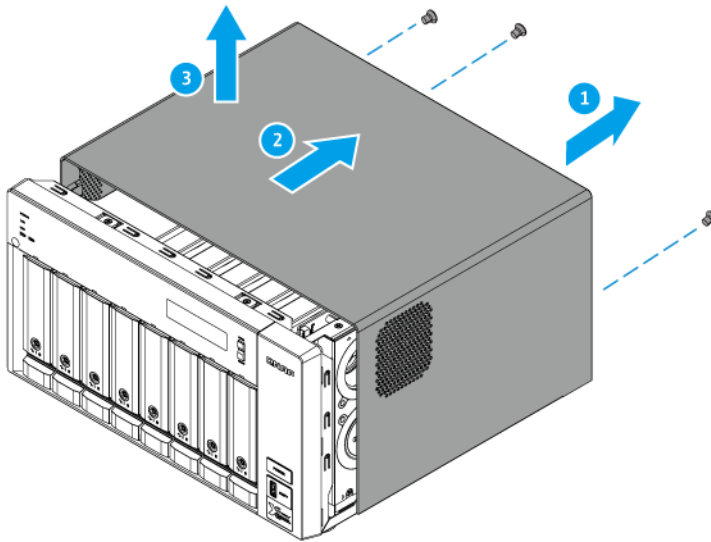
Other moving components: Keep your hands and other body parts away from other moving components.



Note

- QNAP recommends installing heatsinks on the M.2 SSD controllers to enhance cooling efficiency and to ensure consistent performance.
- Before installing non-QNAP heatsinks, ensure that they are of the appropriate size and shape.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
 - a. Remove the screws that secure the case cover to the chassis.
 - b. Slide the cover back.
 - c. Lift the cover until it is completely detached from the chassis.



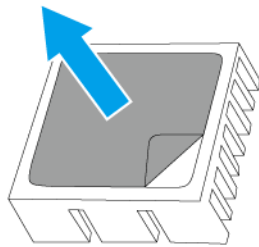
5. Place the device on its right side.
6. Install a heatsink on the M.2 SSD.
 - a. Locate the controller on the M.2 SSD.



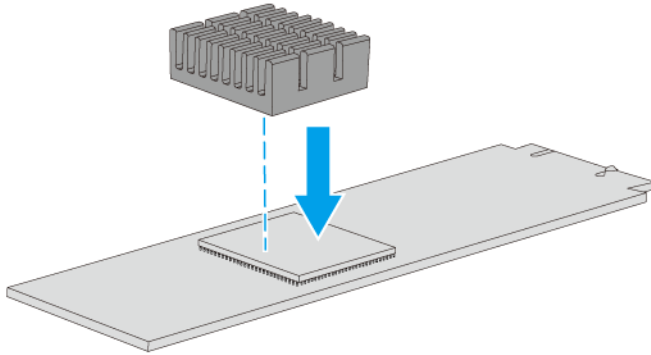
Note

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 heatsink.

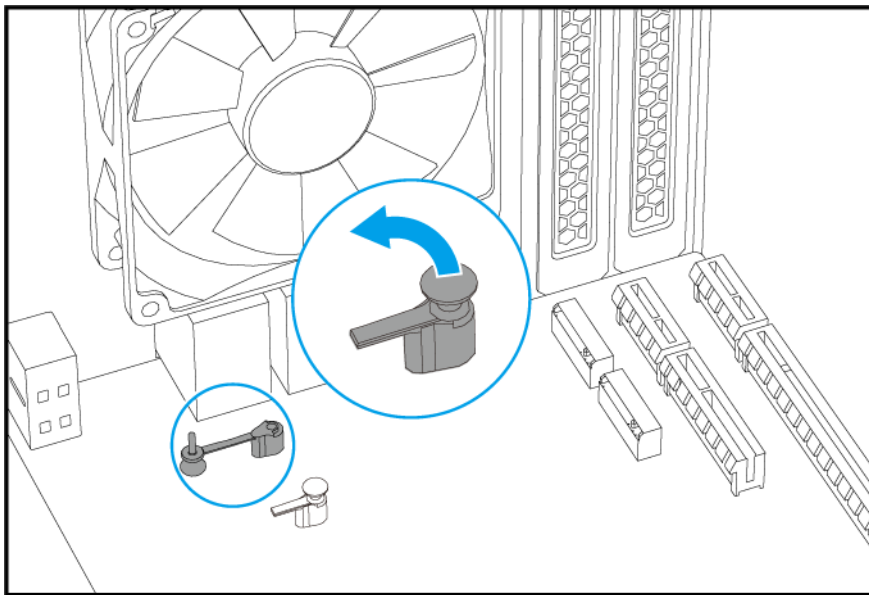


- c. Install the heatsink on the controller.

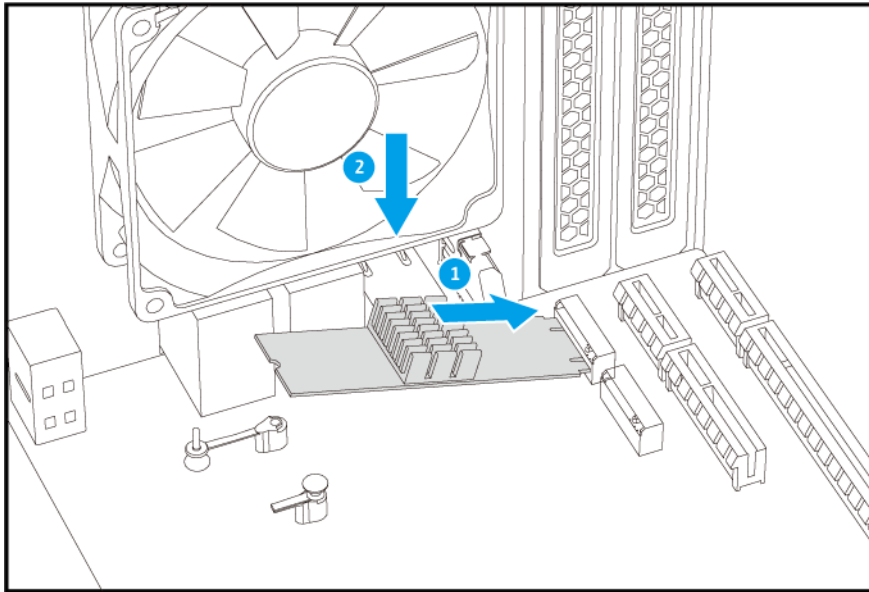


7. Install the M.2 SSD.

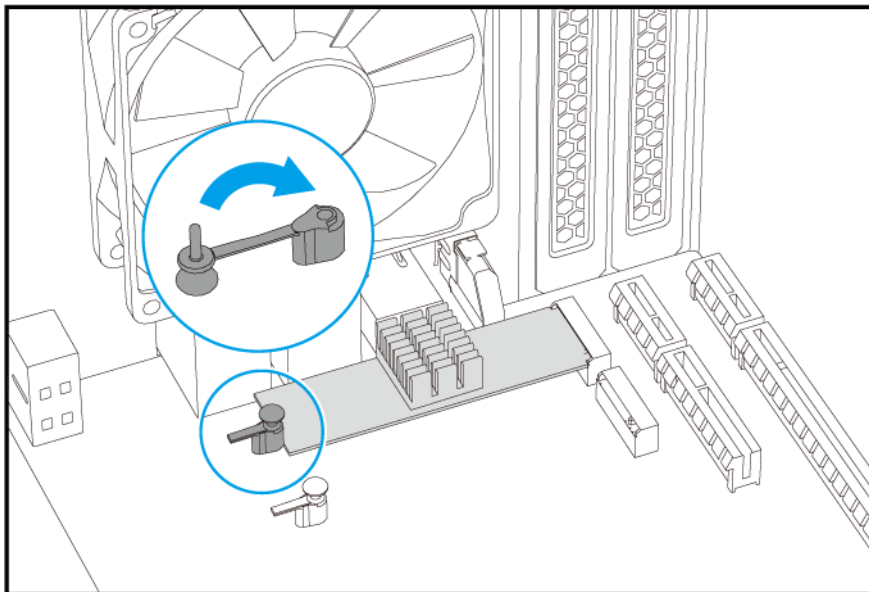
- a. Pull out the pushpin.**



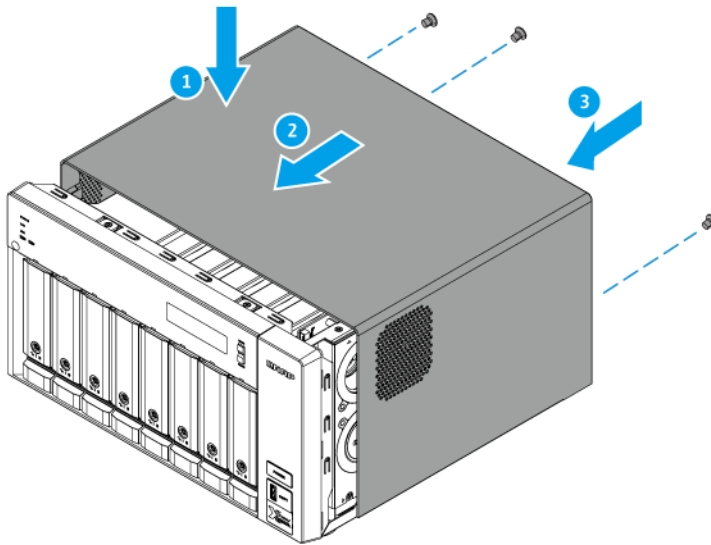
- b. Insert the M.2 SSD into the slot.**



c. Insert the pushpin to secure the drive.



8. Place the device in its normal upright position.
9. Attach the case cover.
 - a. Slide the cover down until it is completely connected to the chassis.
 - b. Slide the cover forward.
 - c. Attach the screws to the back of the NAS.



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

Replacing Memory Modules

The TVS-x72X has two memory slots. You can increase the memory capacity of the NAS by upgrading memory modules.

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



Warning

-



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.

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.

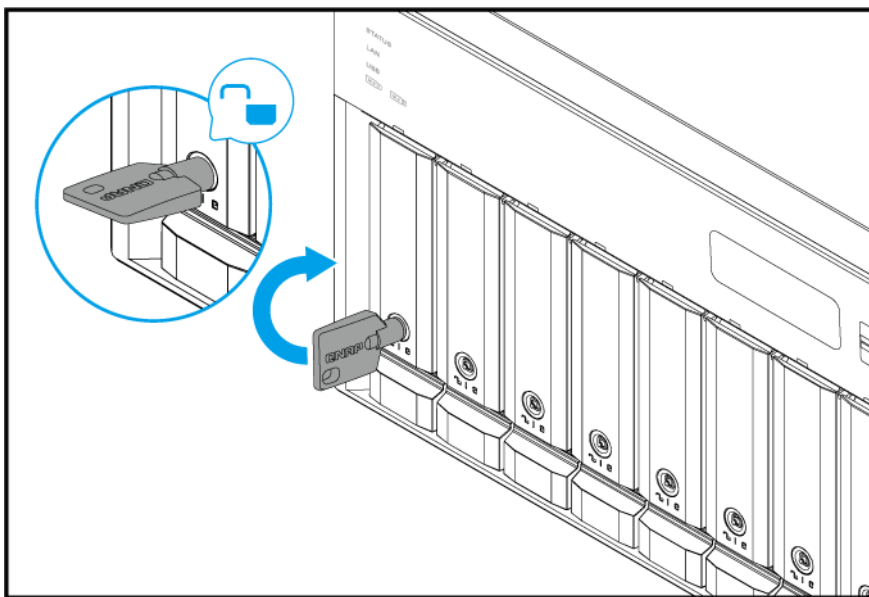
3. Disconnect all cables and external attachments.
4. Remove each drive tray.

**Important**

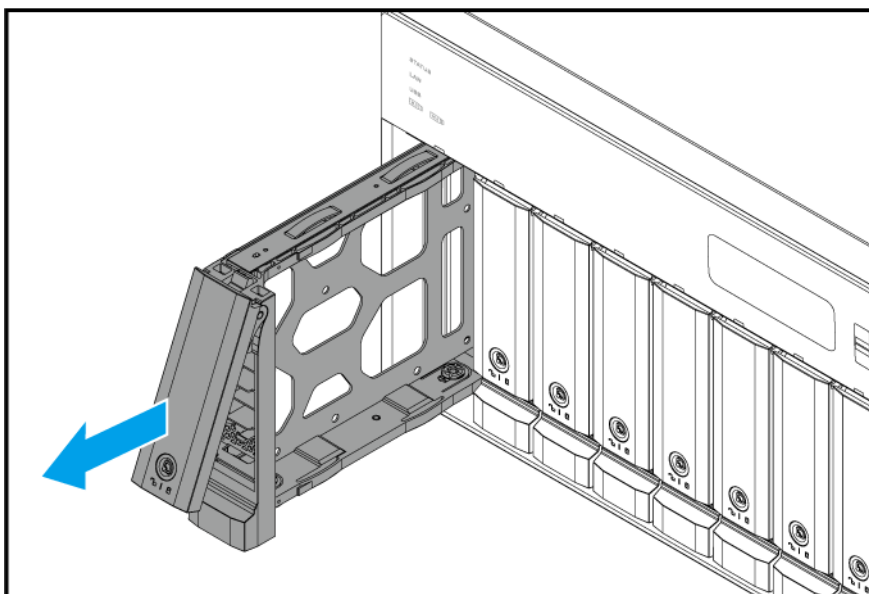
Remember the number of each drive. The drive trays will need to be returned to their original bays.

For details, see [Drive Numbering](#).

- a. Optional: Unlock the tray.



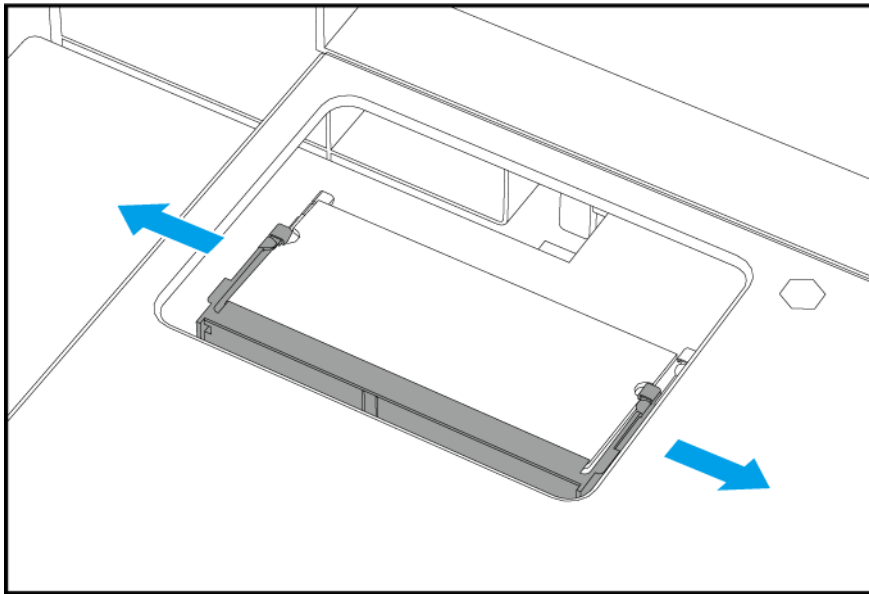
- b. Pull the handle to release the tray.
- c. Pull the tray out.



5. Place the device on its right side.

6. Optional: Remove an existing module.

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



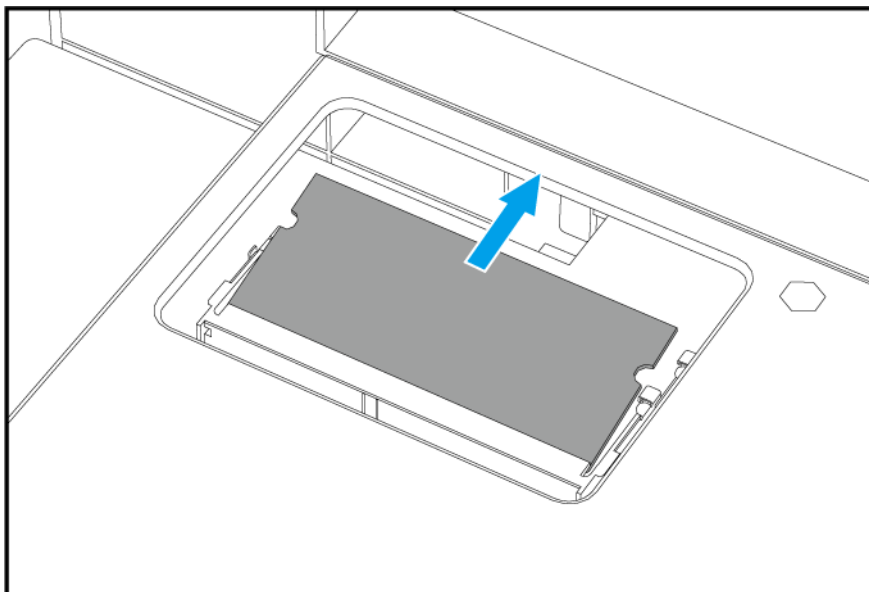
- b. Verify that the module has tilted upward and is completely released from the slot.



Warning

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

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

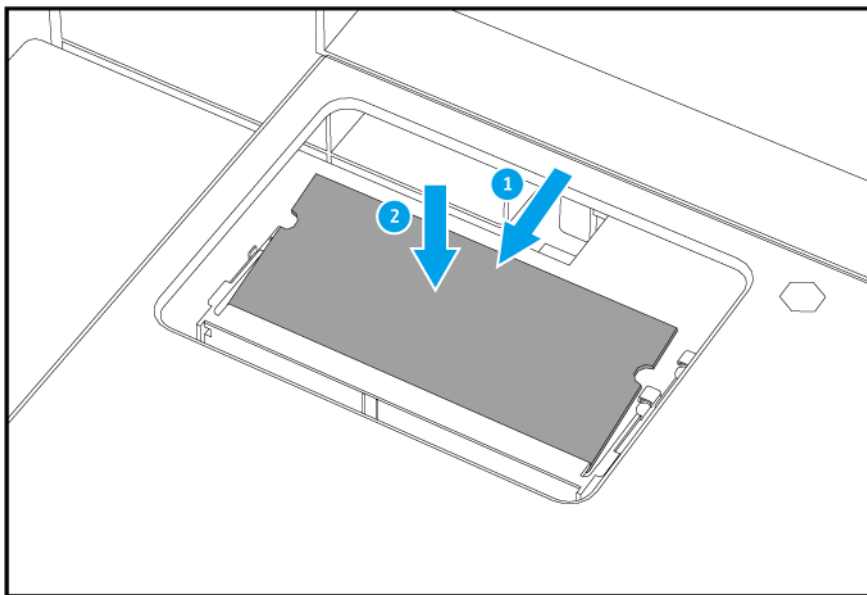


Warning

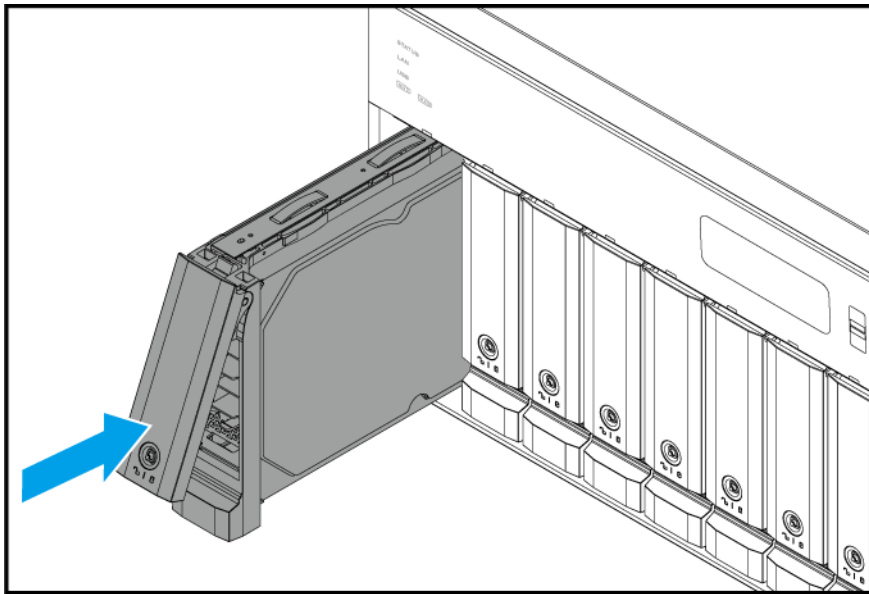
- Do not touch the internal components, particularly the metal connectors.
- Do not bend the module.

7. Install a new module.

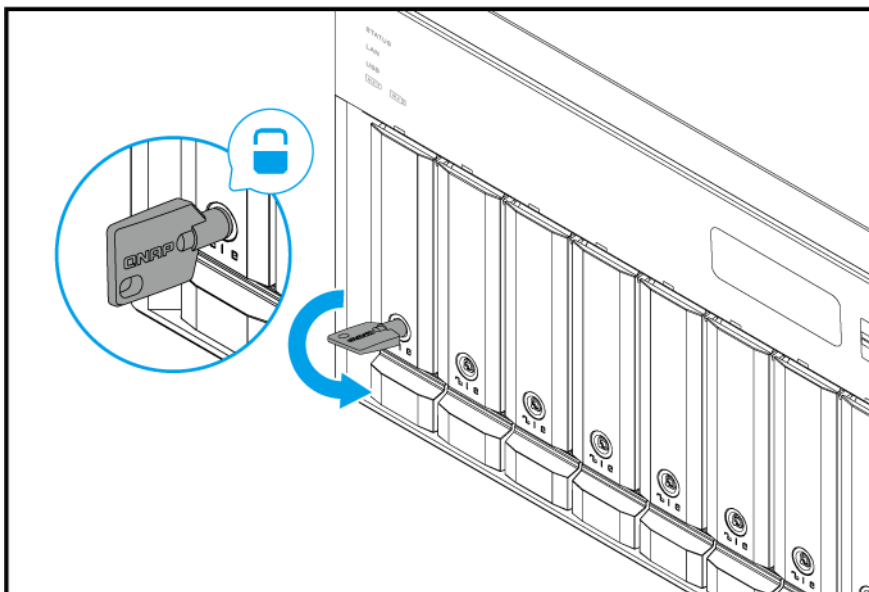
- Align the notch with the ridge in the slot.
- Insert the module into the slot.
- Verify that the metal connectors are completely inserted into the slot.
- Carefully press down on the module until the retention clips lock the module into place.



- Place the device in its normal upright position.
- Return drive trays into their original bays.
 - Slide the drive tray into the drive bay.



b. Lock the tray.



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

Installing Expansion Cards

The device 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 the device.



Warning

-



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

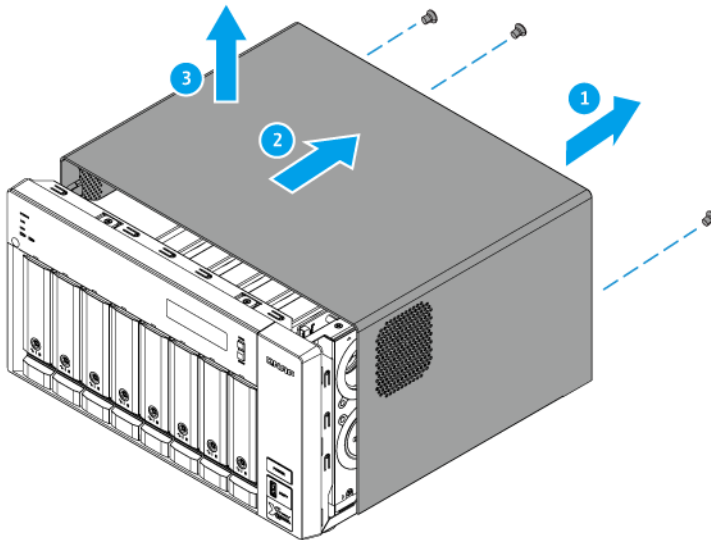
-



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

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Check the expansion cards and brackets supported by your model on the QNAP website.
 - a. Go to www.qnap.com/compatibility.
 - b. Click **Search by NAS**.
 - c. Specify the number of bays and the specific model of your NAS.
 - d. Under **Category**, select the component or device type.
 - e. Locate a specific component or device model in the list.
 - f. Optional: Click the corresponding **Note** icon to view more information.
2. Power off the device.
3. Disconnect the power cord from the electrical outlet.
4. Disconnect all cables and external attachments.
5. Remove the case cover.
 - a. Remove the screws that secure the case cover to the chassis.
 - b. Slide the cover back.
 - c. Lift the cover until it is completely detached from the chassis.



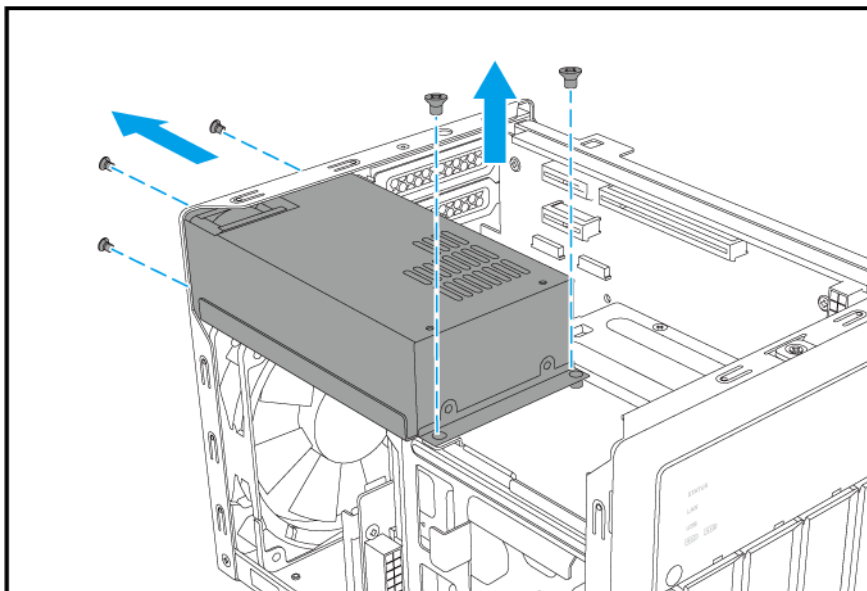
6. Remove the power supply unit.



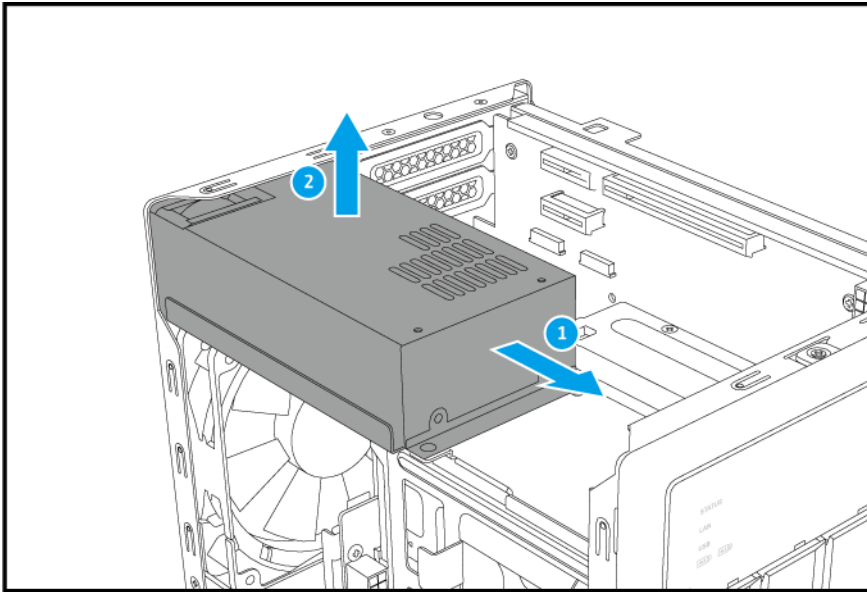
Warning

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.

- a. Disconnect the power supply cables.
- b. Remove the screws that secure the unit to the chassis.

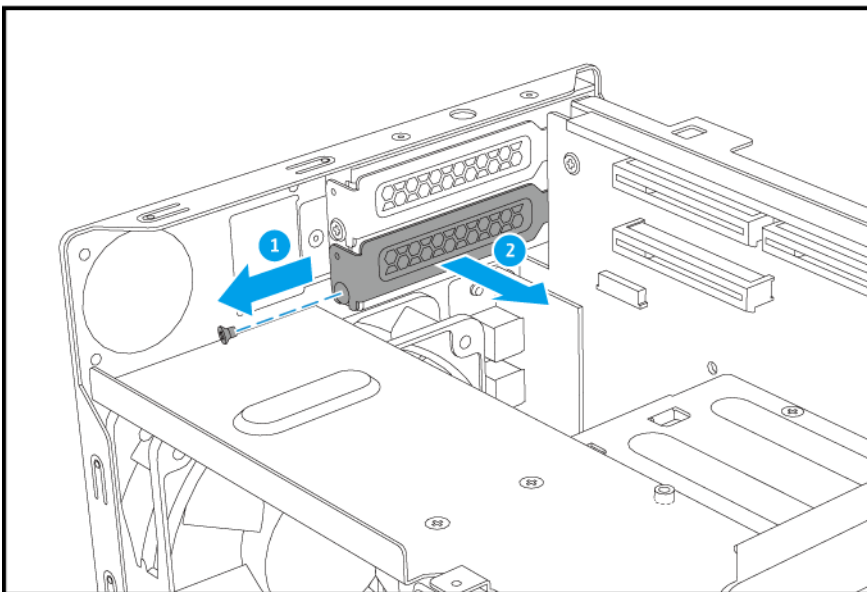


- c. Remove the unit from the chassis.



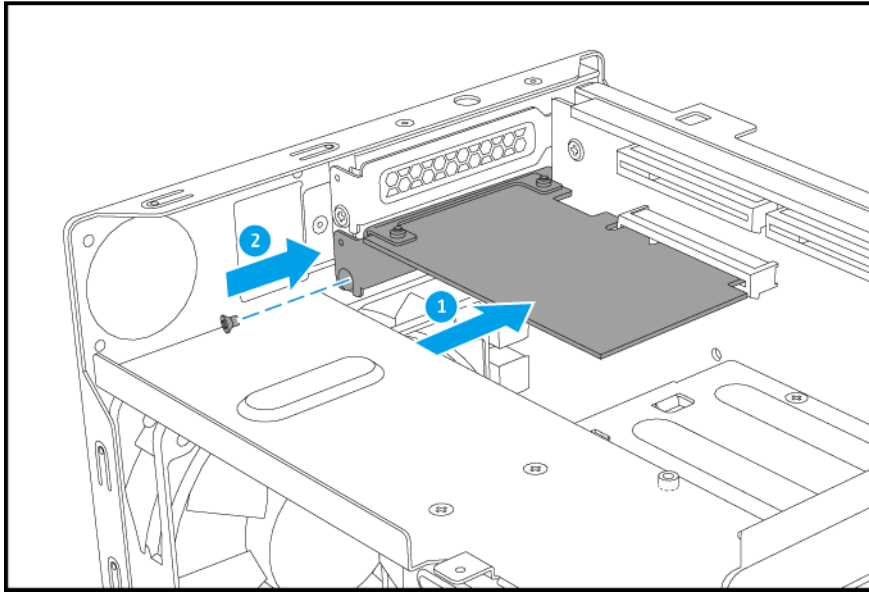
7. Remove the PCIe cover.

- a.** Remove the screw that secures the cover to the bracket.
- b.** Pull the cover away from the slot.



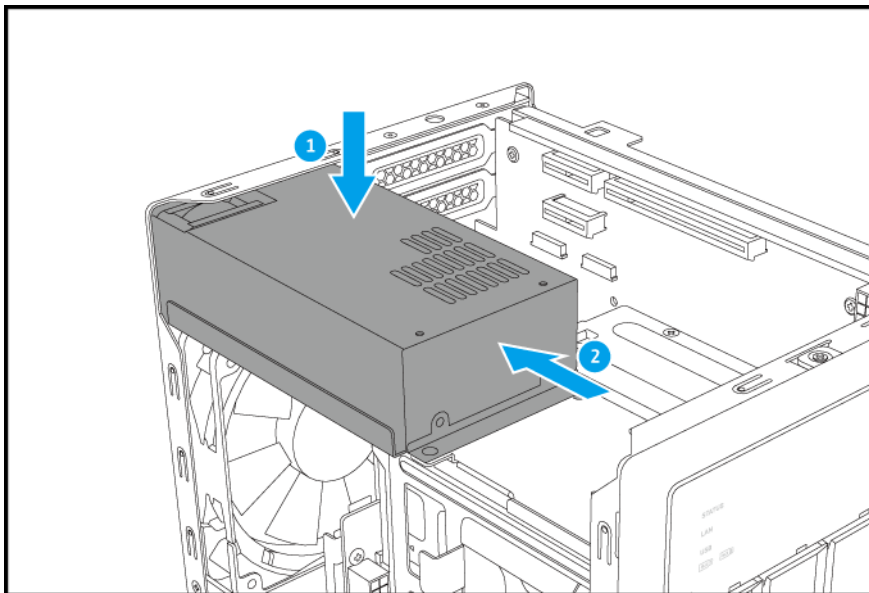
8. Install the expansion card.

- a.** Hold the card by the edges.
- b.** Insert the card into the slot.
- c.** Attach the screw.

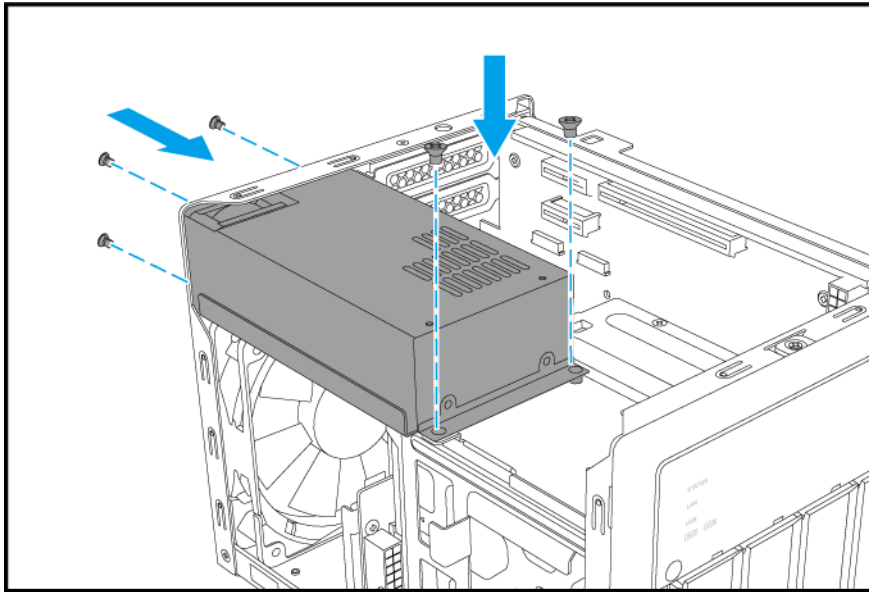


9. Install the power supply unit.

- a. Install the unit on the chassis.**



- b. Attach the screws that secure the unit to the chassis.**



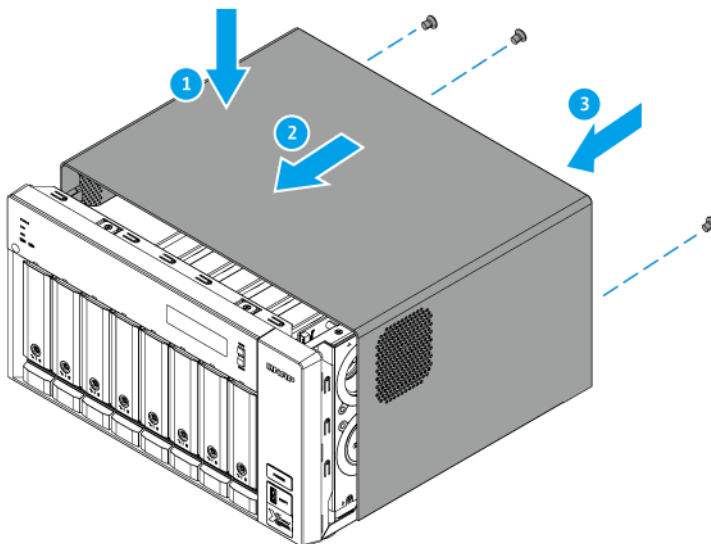
c. Connect the power supply cables.

10. Attach the case cover.

a. Slide the cover down until it is completely connected to the chassis.

b. Slide the cover forward.

c. Attach the screws to the back of the device.



11. Connect all cables and external attachments.

12. Connect the power cord to the electrical outlet.

13. Power on the device.

Expansion Unit Installation

The device supports SAS expansion units, SATA JBOD expansion units, and USB expansion units. For details, please see the table below.

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

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

For the list of compatible expansion units and the maximum number of applicable expansion units, go to <http://www.qnap.com/go/compatibility-expansion>.

| Expansion Unit Model | Description | Required Accessories |
|----------------------|--|--|
| TL-D400S | <ul style="list-style-type: none"> • Uses a SATA 6 Gbps (SFF-8088) interface • Supports SATA/HDD/SSD | <ul style="list-style-type: none"> • 1 x SFF-8088 connector cable • QXP-400eS-A1164 host bus adapter |
| TL-D800S | <ul style="list-style-type: none"> • Uses a SATA 6 Gbps (SFF-8088) interface • Supports SATA/HDD/SSD | <ul style="list-style-type: none"> • 2 x SFF-8088 connector cables • QXP-800eS-A1164 host bus adapter |
| TL-D1600S | <ul style="list-style-type: none"> • Uses a SATA 6 Gbps (SFF-8088) interface • Supports SATA/HDD/SSD | <ul style="list-style-type: none"> • 4 x SFF-8088 to SFF-8644 connector cables • QXP-1600eS host bus adapter |
| TL-R400S | <ul style="list-style-type: none"> • Uses a SATA 6 Gbps (SFF-8088) interface • Supports SATA/HDD/SSD | <ul style="list-style-type: none"> • 1 x SFF-8088 connector cable • QXP-400eS-A1164 host bus adapter • RAIL-B02 |
| TL-R1200S-RP | <ul style="list-style-type: none"> • Uses a SATA 6 Gbps (SFF-8088) interface • Supports SATA/HDD/SSD | <ul style="list-style-type: none"> • 3 x SFF-8088 to SFF-8644 connector cables • QXP-1600eS host bus adapter • RAIL-B02 |
| TL-D800C | <ul style="list-style-type: none"> • Uses a USB 3.2 Gen 2 Type-C interface • Supports SATA drives | <ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C to Type-C cable |
| TR-002 | <ul style="list-style-type: none"> • Uses a USB 3.2 Gen 2 Type-C interface • Supports SATA drives | <ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C to Type-C cable |
| TR-004 | <ul style="list-style-type: none"> • Uses a USB 3.2 Gen 1 Type-C interface • Supports SATA drives | <ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C to Type-C cable |
| TR-004U | <ul style="list-style-type: none"> • Uses a USB 3.2 Gen 1 Type-C interface • Supports SATA drives | <ul style="list-style-type: none"> • USB 3.2 Gen 1 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C to Type-C cable • RAIL-B02 |

Connecting SATA Expansion Units

To connect the TVS-x72X to SATA JBOD expansion units, a host bus adapter must be installed on the NAS.

For required accessories details, see [Expansion Unit Installation](#).

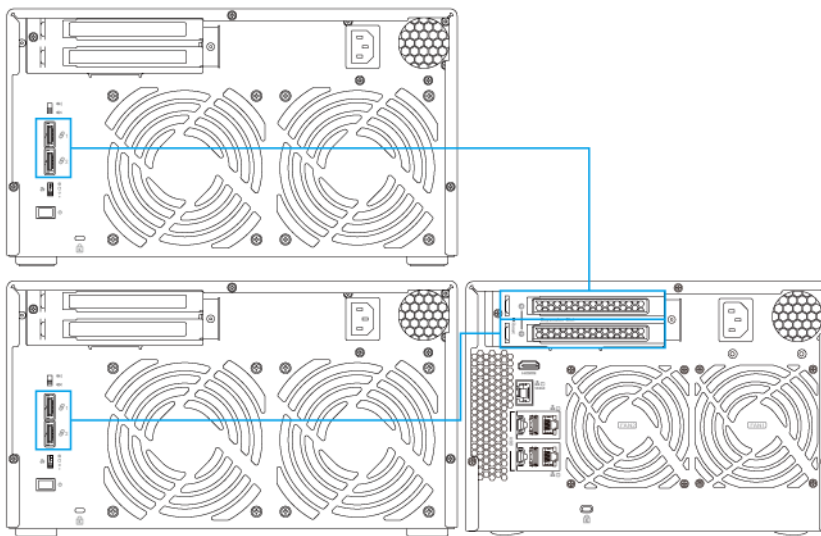
1. Power off the NAS.
2. Install a host bus adapter on the PCIe slot.
For details, see [Installing Expansion Cards](#).



Important

The QNAP QXP host bus adapter is required for connecting the SATA JBOD enclosure to a host device. Third-party host bus adapters are not compatible with QNAP JBOD enclosures.

3. Connect the expansion units to the NAS using the following topology.



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

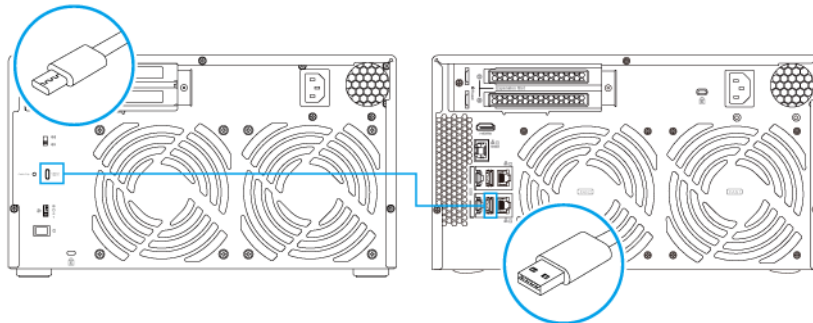
Connecting USB Expansion Units

To connect the device to USB expansion units, USB Type-A to USB Type-C cables or USB Type-C to USB Type-C cables are required.

For required accessories details, see [Expansion Unit Installation](#).

1. Verify that the NAS is powered off.
2. Connect the expansion unit to the NAS.
 - a. Connect the USB cable to the USB Type-C port on the expansion unit.

- b. Connect the USB cable to a USB 3.2 Gen 2 Type-A port on the NAS.



3. Power on the expansion units.
4. Power on the NAS.
5. Verify that the expansion units are recognized by the NAS.
 - a. Log on to QTS as administrator.
 - b. Go to **Main Menu > Storage & Snapshots > Overview > System**.
 - c. Verify that the expansion units are listed.
6. Optional: Troubleshoot abnormal USB connection speed.
 - a. Power off the NAS.
 - b. Power off the expansion units.
 - c. Disconnect all USB cables.
 - d. Wait 10 seconds.
 - e. Replug the USB connectors.



Important

- Plug each connector all the way in to its corresponding USB port in one smooth action.
- Follow the previous steps to reconnect the expansion units to the NAS.

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"> • Locate the NAS using Qfinder Pro. • Complete the steps in the Smart Installation Guide wizard. | <ul style="list-style-type: none"> • Computer • Network cable • Qfinder Pro installer |
| Cloud installation | <p>If the NAS is connected to the internet, you can do the following:</p> <ul style="list-style-type: none"> • Scan the QR code on the NAS. • Specify the Cloud Key. • Log into your myQNAPcloud account. • Use myQNAPcloud Link to remotely access your NAS. • Complete the steps in the Smart Installation Guide wizard. | <ul style="list-style-type: none"> • Computer or mobile device • myQNAPcloud account • Cloud Key |
| Local installation | <p>If the NAS supports HDMI output, you can do the following:</p> <ul style="list-style-type: none"> • Connect the NAS to the required hardware. • Complete the steps in the Smart Installation Guide wizard. | <ul style="list-style-type: none"> • Monitor • HDMI cable • USB keyboard or Remote control (not available on all models) |

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**. The **Enter the NAS name and administrator's password** screen appears.

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**.

The **Set the date and time** screen appears.

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**.

The **Configure the network settings** screen appears.

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

11. Click **Next**.

The **Cross-platform file transfer service** screen appears.

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

13. Click **Next**.

The **Summary** screen appears.

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.

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**.

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

8. Click **Start Smart Installation Guide**.

9. 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.

10. Click **Next**.

The **Set the date and time** screen appears.

11. 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.

12. Click **Next**.

The **Configure the network settings** screen appears.

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

14. Click **Next**.

The **Cross-platform file transfer service** screen appears.

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

16. Click **Next**.

The **Summary** screen appears.

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 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**.
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.
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**.
The **Summary** screen appears.
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 device powers on. |
| Power off | Press and hold the button for 1.5 seconds. | The device powers off. |
| Force power off | Press and hold the button for 5 seconds. | The device powers off.  Important Use this method only when the device is unresponsive. |

Reset Button

| Operation | User Action | Result |
|-----------------------|---|---|
| Basic system reset | Press and hold the button for 3 seconds. | <p>The following settings are reset to default:</p> <ul style="list-style-type: none"> • System administrator password: The default password is the first MAC address in uppercase letters without special characters. For example, if the first MAC address is 00-08-9B-F6-15-75, then the admin password will be 00089BF61575. <p> Tip You can find the first MAC address using Qfinder Pro. A label attached to the device also lists the address as MAC1.</p> <ul style="list-style-type: none"> • TCP/IP configuration: <ul style="list-style-type: none"> • Obtain IP address settings automatically via DHCP • Disable jumbo frames • If port trunking is enabled (multi-LAN models only), the port trunking mode is reset to "Active Backup (Failover)". • System port: 8080 (system service port) • Security level: Low (Allow all connections) • LCD panel password: (blank) • VLAN: Disabled |
| Advanced system reset | Press and hold the button for 15 seconds. | The default factory settings are restored. To retrieve old data after an advanced system reset, recreate the previous folder structure on the NAS. |

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.

LCD Panel

The LCD panel allows you to perform the following operations:

- Restart and power off the device
- Configure or change the LCD panel password
- View and configure network settings
- View information on the system, physical disks, and volumes

Viewing TCP/IP Settings

You can view the following settings for each network adapter on the NAS.

- IP address
- Subnet mask
- Default gateway
- Primary DNS
- Secondary DNS

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press and hold **Enter**.
The panel displays the IP address of the first network adapter.
4. Press and hold **Select** to view the next TCP/IP screen.
Repeat this step as necessary.

Configuring TCP/IP Settings

You can configure the following settings for each network adapter on the device:

- IP address
- Subnet mask
- Default gateway
- Primary DNS
- Secondary DNS

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press and hold **Enter**.
The panel displays the IP address of the first network adapter.
4. Press **Select** repeatedly until the panel displays `Enter Network Settings`.
5. Press and hold **Enter**.
The panel displays the configurable network settings.
6. Press **Select** and then **Enter** to configure the settings.

| Button | Usage |
|---------------|---|
| Enter | <ul style="list-style-type: none"> • Display a configuration screen. • Move to the next item on a configuration screen. |
| Select | <ul style="list-style-type: none"> • Move to the next item on a menu. • Modify a value on a configuration screen. |

7. After configuring the settings, press **Select** repeatedly until the panel displays `Network Restart`.



Important

If you do not see `Network Restart`, the system will not save the configured settings.

The system saves the settings.

Viewing Drive Information

The LCD panel can display the temperature and capacity of each drive installed in the NAS.

1. Press **Enter** or **Select**.
The panel displays the NAS name and the QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 2. Physical disk`.
4. Press and hold **Enter**.
The panel displays the temperature and capacity of the drive in bay 1.
5. Press and hold **Select**.
Repeat this step as necessary.
The panel displays the temperature and capacity of the next drive.

Viewing Volume Information

The LCD panel can display the name and capacity of each volume.

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.

2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 3. Volume`.
4. Press and hold **Enter**.
The panel displays the name and capacity of the first volume.
5. Press and hold **Select**.
Repeat this step as necessary.
The panel displays the name and capacity of the next volume.

Viewing System Information

The LCD panel can display the CPU temperature, system temperature, and system fan speed.

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 4. System`.
4. Press and hold **Enter**.
The panel displays the CPU and system temperature.
5. Press and hold **Select**.
The panel displays the system fan speed.

Powering Off the NAS

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 5. Shut down`.
4. Press and hold **Enter**.
The NAS powers off.

Restarting the NAS

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 6. Reboot`.
4. Press and hold **Enter**.
The NAS restarts.

Changing the LCD Password

Specifying a password for the LCD panel prevents unauthorized access.

1. Press **Enter** or **Select**.
The panel displays the NAS name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Enter** repeatedly until the panel displays `Main Menu 7. Password`.
4. Press and hold **Enter**.
The `Change Password` screen appears.
5. Select **Yes** by pressing and holding **Enter**.
The `New Password` screen appears.
6. Press **Select** and **Enter** to specify a new password.
 - Specify a password.
 - Length: 1-8 characters
 - Valid characters: 0-9
 - To delete a password, leave the password field blank.
 - Move the cursor to `OK`.

| Button | Usage |
|---------------|---|
| Enter | Move to the next item in the <code>New Password</code> screen. |
| Select | Change a character in the <code>New Password</code> and <code>Verify Password</code> screens. |

7. Press **Enter**.
The NAS saves the password.

LCD Error Messages


| System Message | Description |
|------------------------|--|
| Sys. Fan Failed | System fan has failed. |
| Sys. Overheat | System has overheated. |
| HDD Overheat | Drive has overheated. |
| CPU Overheat | CPU has overheated. |
| Network Lost | LAN 1 and LAN 2 disconnected in failover or load-balancing mode. |
| LAN [number] Lost | LAN [number] has disconnected. |
| HDD Failure | Drive has failed. |
| Vol [number] Full | Volume [number] is full. |
| HDD Ejected | Drive has ejected. |
| Vol [number] Degraded | Volume [number] is in degrade mode. |
| Vol [number] Unmounted | Volume [number] has unmounted. |

| System Message | Description |
|-----------------------|------------------------------|
| Vol [number] Inactive | Volume [number] is inactive. |

LEDs

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

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"> • The drive is being formatted. • The device is being initialized. • The operating system is being updated. • RAID rebuilding is in progress. • Online RAID Capacity Expansion is in progress. • Online RAID Level Migration is in progress. • The firmware is being updated. <p> Important When updating the firmware, do not remove the power cord or USB cable, and do not force-exit the application.</p> |
| | Red | <ul style="list-style-type: none"> • The drive is invalid. • The disk volume has reached its full capacity. • The disk volume is about to reach its full capacity. • The system fan is not functioning. • An error occurred when accessing (read/write) the data. • A bad sector is detected on the hard drive. • The device is in degraded read-only mode (two member drives failed in RAID 5 or RAID 6 but the data can still be read). • A hardware self-test error occurred. |
| | Flashes red every 0.5 seconds | The device is in degraded mode (one member drive failed in RAID 1, RAID 5, or RAID 6). |
| | Flashes red once | The device has received a command from the remote control. |
| | Green | The device is ready. |
| | Flashes green every 0.5 seconds | <ul style="list-style-type: none"> • The device is not configured. • A drive is not formatted. |
| | Flashes orange | The device is in sleep mode. |
| | Off | <ul style="list-style-type: none"> • All drives are in standby mode. • The device is powered off. |

| LED | Status | Description |
|---------------------------|----------------|---|
| 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 | Data is being accessed. |
| | Green | The drive is ready. |
| | Off | No drive was detected. |
| M.2 SSD | 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 | Data is being accessed. |
| | Green | The drive is ready. |
| | Off | No drive was detected. |
| LAN | Orange | <ul style="list-style-type: none"> The network connection is operating. The network connection is operating at 1 Gbps. The network connection is operating at 10 Gbps. <div style="border-left: 2px solid #0070C0; padding-left: 10px; margin-top: 10px;"> <p>Note The LAN LED can only detect the device's in-built Ethernet port connections. It cannot detect network expansion cards' Ethernet port connection status.</p> </div> |
| | Flashes orange | The device is being accessed from the network. |
| | Off | The device is not connected to a network. |
| Multi-Gigabit speed | Green | The network connection is operating at 10 Gbps. |
| | Orange | <ul style="list-style-type: none"> The network connection is operating at 5 Gbps. The network connection is operating at 2.5 Gbps. The network connection is operating at 1 Gbps. |
| | Off | The network connection is operating at 100 Mbps. |
| Multi-Gigabit activity | Orange | A network connection has been established. |
| | Flashes orange | The device is being accessed on this network. |
| | Off | There is no network connection. |
| Gigabit Ethernet speed | Green | The network connection is operating at 1 Gbps. |
| | Orange | The network connection is operating at 100 Mbps. |
| | Off | There is no network connection. |
| Gigabit Ethernet activity | Green | A network connection has been established. |
| | Flashes green | The device is being accessed from the network. |
| | Off | There is no network connection. |
| USB | Blue | A USB device connected to the front USB port is detected. |
| | Off | No USB expansion unit has been detected. |

| LED | Status | Description |
|--------------------|--------------------------------|---|
| USB One Touch Copy | Flashes blue every 0.5 seconds | <ul style="list-style-type: none"> • A USB device connected to the USB One Touch Copy port is detected. • A USB device connected to the front USB port is being removed from the device. • A USB device connected to the front USB port is being accessed. |
| | Blue | A USB device is 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"> • The NAS is starting up. • The NAS is shutting down. • When the reset button is pressed for 3 seconds, the NAS resets configurations. • When the reset button is pressed for 10 seconds, the NAS resets configurations and reboots. • The operating system was updated. |
| | 3 | <ul style="list-style-type: none"> • The NAS data cannot be copied to the external storage device connected to the front USB port. • The firmware was updated. |
| Long beep (1.5 seconds) | 3 (every 5 minutes) | The system fan is not functioning. |
| | 2 | <ul style="list-style-type: none"> • The storage pool is about to reach full capacity. • The disk volume is about to reach its full capacity. • The disk volume has reached its full capacity. • The drives are in degraded mode. • The drive is rebuilding. • A drive is plugged in or out. |
| | 1 | <ul style="list-style-type: none"> • The NAS was powered off by force shutdown (hardware shutdown). • The NAS was powered on successfully and is ready. |

5. NAS Migration

You can migrate data and settings from your current NAS to another NAS model with minimal disruptions by installing all the hard drives from the source NAS to the destination NAS. RAID configuration and other settings are retained on the destination NAS after migration.

NAS Migration Requirements

You can only migrate drives to specific NAS models, depending on your source NAS. For the list of NAS models compatible with direct NAS migration, see <https://www.qnap.com/en/nas-migration>.

Your device must meet the following requirements:

- QTS NAS supports several types of NAS migration:
 - ARM NAS to an ARM NAS
 - x86 NAS to an x86 NAS
 - ARM NAS to an x86 NAS



Note


You cannot migrate from an x86 NAS to an ARM NAS.




- The destination NAS must run on the same QTS version as the source NAS (or later).
- The destination NAS must have sufficient free drive bays to accommodate all the drives that you are migrating from the source NAS.

For NAS models that do not support NAS migration, you can migrate existing data using HBS 3. For details, see [Migrating NAS Data Using HBS 3](#).

Status and Setting Changes after NAS Migration

The status of NAS data and settings varies after migration.

| Data and Settings | After NAS Migration |
|-----------------------------|--|
| Registered myQNAPcloud name | Your registered myQNAPcloud name is not migrated. |
| Encrypted disk volumes | <p>If the NAS does not support file system encryption, encrypted disk volumes are not migrated.</p> <div style="border-left: 2px solid red; padding-left: 10px; margin-top: 10px;"> <p> Warning To prevent data loss, back up and save the encryption keys of encrypted disk volumes in a safe place. You can also choose to decrypt disk volumes before migration.</p> </div> |

| Data and Settings | After NAS Migration |
|--------------------------|---|
| Shared folders | <p>All shared folders and the downloaded files stored in them are retained.</p> <p> Warning To prevent data loss, back up and save encryption keys or passwords of encrypted shared folders in a safe place before migration.</p> <p> Important Folder permissions on the destination NAS must be reconfigured after migration.</p> |
| Network | <ul style="list-style-type: none"> If the number of network ports or network port specifications on the destination NAS is different from the source NAS, the following network and virtual settings may change and require reconfiguration: port trunking, virtual machines, Thunderbolt, USB QuickAccess, and more. You must reconfigure network settings when the source NAS is running on QTS 4.3.5 or earlier versions. |
| Windows AD configuration | Windows AD configurations must be reconfigured. |
| Licenses | <p>Licenses are not migrated.</p> <p> Warning To prevent losing all your software licenses, QNAP recommends deactivating licenses on the source NAS before data migration.</p> |
| Applications | If the destination NAS has less RAM than the source NAS, the following features and applications might not function: Virtualization Station, Qsirch, and Snapshots. |
| Services | Only services supported by the destination NAS are available. |
| Multimedia features | Some multimedia features are disabled by default. |

Migrating a NAS



Important

Before performing NAS migration, ensure that you understand all requirements and possible changes after migration. For details see the following topics:

- [NAS Migration Requirements](#)
- [Status and Setting Changes After NAS Migration](#)

1. Power off the source NAS and the destination NAS.
2. Remove the drives.



Important

QNAP recommends following the source NAS drive order when installing the drives. Take note of the drive tray order when removing the drives.

- a. Remove the drives from the source NAS.
 - b. Remove the drive trays from the destination NAS.
3. Install the drives.
 - a. Install source NAS drives onto the destination NAS drive trays.
 - b. Insert the drive trays into the destination NAS.
4. Power on the destination NAS.
5. Log on to QTS as an administrator on the destination NAS.
The destination NAS automatically checks for the latest firmware update.

Migrating NAS Data Using HBS 3

For NAS models that do not support direct migration, you can initialize the destination NAS then copy data from the source NAS to the destination NAS using HBS 3.

Preparing the Destination NAS



1. Log on to QTS.
2. Create one or more storage pools.
For details, see the Creating a Storage Pool topic in the QTS user guide.
3. Create one or more volumes.
For details, see the Volume Creation topic in the QTS user guide.
4. Create shared folders on the destination NAS.
For details, see the Creating a Shared Folder topic in the QTS user guide.
5. Install HBS 3 onto the destination NAS.
 - a. Go to **App Center**.
 - b. Search for HBS 3.
 - c. Click **Install**.
HBS 3 is installed on the destination NAS.
6. Enable the remote server settings on the destination NAS.
 - a. Go to **App Center > HBS 3 > Services > RTRR** .
 - b. Click **Enable RTRR Server**.
The RTRR server settings window appears.
 - c. Specify the **RTRR Server** settings.

| Setting | Description |
|----------|---|
| Password | Specify a password that contains 1 to 16 characters from any of the following groups: <ul style="list-style-type: none"> • Letters: A to Z, a to z • Numbers: 0 to 9 • Special characters: . - _ ~ ! @ # \$ % ^ & () { } • Does not start or end with a space. |
| Port | Specify a port number to access the RTRR server. |

7. Click **Apply**.
A confirmation window appears.
8. Click **OK**.
The remote server settings are completed.

Creating a One-Way Sync Job

1. On the source NAS, go to **App Center > HBS 3 > Sync**.
2. Click **Sync Now**.
3. Select **One-way Sync Job**.
The **Create a Sync Job** window appears.
4. Click **Remote NAS**.
5. Click **Add New Account**.
The **Create a Storage Space** window appears.
6. Select the destination NAS as the destination storage space and specify the following:

| Setting | Description |
|-------------------------------|--|
| Name | The name used to identify the storage space. |
| IP address / Host name | The IP address or hostname used to access the storage space.  Tip Click  to scan for available devices. |
| Port | The port number used to access the storage space. This value must be between 1 to 65535. |
| Password | The password used to access the storage space. |
| Use SSL connection | Requires SSL connection when accessing the remote NAS. |

7. Optional: Test the connection.

| Test | Description |
|----------------------|---|
| Detect Server | Tests the accessibility of the selected storage space. |
| Speed Test | Tests the network connection speed of the selected storage space. |

8. Click **Create**.
9. Click **Select**.

10. Select the paired folders.



Important

- All subfolders and files in the selected folder are selected.
- You can only sync up to 16 paired folders per job.

- a. Under the source, click **+**.
A dialog box opens.
- b. Select a folder.
- c. Click **OK**.
The dialog box closes.
- d. Under the destination, click **+**.
A dialog box opens.
- e. Select a folder.
- f. Click **OK**.
- g. Optional: Add more paired folders if necessary.

11. Click **Next**.
The **Schedule** screen appears.

12. Select **Sync now**.

13. Click **Next**.
The **Rules** screen appears.

14. Optional: Configure job rules.

15. Click **Next**.
The **Summary** screen appears.

16. Review the job summary.

17. Click **Create**.
The source NAS runs the created one-way sync job.



Note

It may take several minutes to migrate shared folders from the source NAS to the destination NAS.

Importing Local Users or Group Settings to the Destination NAS

1. Power on the source NAS.
2. Back up the users or group settings from the source NAS.
 - a. Log on to QTS.
 - b. Click **Import/Export Users**.
The **Import/Export Users** window appears.
 - c. Select **Export user and user group settings**.

- d. Click **Next**.
The NAS user and user group settings are exported as a file and downloaded onto your computer.
3. Import user settings on the source NAS to the destination NAS.
 - a. On the destination NAS, log on to QTS.
 - b. Go to **Control Panel > Privilege > Users** .
 - c. Click **Import/Export Users**.
 - d. Select **Import user and user group settings**.

**Note**

You can select whether to send a notification mail to newly created users or overwrite duplicate users.

- e. On your computer, select the user settings file exported from the source NAS.
For details, see [Back up the source NAS users or group settings](#).
The source NAS user settings file is imported to the destination NAS.

6. 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 Type | Number of Disks | Situation |
|-----------|-----------------------------------|---|
| RAID 1 | 2 | One member drive fails. |
| RAID 5 | ≥ 3 | One member drive fails. |
| RAID 6 | ≥ 4 | One or two member drives fail. |
| RAID 10 | ≥ 4 (Must be an even number) | One or two member drives in two different pairs fail. |
| RAID 50 | ≥ 6 | One disk per subgroup fails. |
| RAID 60 | ≥ 8 | Two disks per subgroup 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 device.
6. Wait for 20 seconds or until the device beeps twice.
7. Remove the failed drive from the drive tray.
8. Insert the new drive into the drive tray.
9. Install the new drive.
The NAS beeps twice.
10. Go to **Main Menu > Storage & Snapshots > Storage Space** .
11. Locate the volume that contains the new drive and then verify that the status is `Rebuilding`.

Support and Other Resources

QNAP provides the following resources:

| Resource | URL |
|------------------------------|---|
| Documentation | https://download.qnap.com |
| Compatibility List | https://www.qnap.com/compatibility |
| NAS Migration Compatibility | https://www.qnap.com/en/nas-migration |
| Expansion Unit Compatibility | http://www.qnap.com/go/compatibility-expansion |
| Service Portal | https://service.qnap.com |
| Product Support Status | https://www.qnap.com/en/product/eol.php |
| Downloads | https://download.qnap.com |
| Community Forum | https://forum.qnap.com |
| QNAP Accessories Store | https://shop.qnap.com |

7. Glossary

Cloud Key

Unique 8-digit code assigned to each NAS device

myQNAPcloud Link

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

myQNAPcloud

Provides various remote access services such as DDNS and myQNAPcloud Link

Qfinder Pro

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

QNAP ID

User account that enables you to use myQNAPcloud remote access and other QNAP services

QTS

QNAP NAS operating system

8. 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.

UKCA Notice



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

FCC Notice

FCC Class B Notice



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

**Important**

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

VCCI Notice

VCCI-B

BSMI Notice

R33B77
RoHS

SJ/T 11364-2006



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