



QVP-41B

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 QVP-41B surveillance server.

About the QVP-41B

The QVP-41B NVR network surveillance server supports real-time video/audio monitoring, high-resolution recording, and playback from multiple IP cameras. PoE switch functionality is also provided by the QVP-41B, supporting connecting all kinds of PoE cameras and devices to create an intelligent surveillance infrastructure for enterprises, small and medium businesses, and families. With four 3.5-inch SATA drive bays, sixteen 30-watt Gigabit PoE ports, two RJ45 combo ports, and two 2.5 GbE host management ports, the QVP-41B provides great storage space and high-speed networking to meet the requirements of small/medium monitoring environments.

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	Embedded channels	Maximum channels	Power supply
QVP-41B	4	8 GB	8	24	Single



Tip

The QVP-41B comes with a specified amount of free channels. To purchase additional channels, go to **Control Panel > System > License Center** for more details.

Component	QVP-41B
Processor	
CPU	Intel® Celeron® J4125
Frequency	4-core/4-thread 2.0 GHz base/2.7 GHz burst
Architecture	x86 64-bit
Encryption engine	AES-NI
Graphics	Intel® HD Graphics 600
Memory	
Pre-installed memory	8 GB RAM: 2 x 4 SODIMM DDR4

Component	QVP-41B
Memory slots	2 x SODIMM DDR4  Important • 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.
Maximum memory	8 GB (2 x 4 GB)
Flash memory	4 GB (dual-boot OS protection)
Storage	
Drive bays	4 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: • 3.5-inch SATA hard disk drives • 3.5-inch SATA solid-state drives • 2.5-inch SATA hard disk drives • 2.5-inch SATA solid-state drives  Note For the list of compatible drive models and expansion cards, go to https://www.qnap.com/compatibility.
M.2 SSD slots	2 x M.2 SATA
M.2 SSD form factor	2280
Hot-swapping	The device supports hot-swapping drives except for the following: M.2 SSDs
Network	
2.5 Gigabit network interface	2 x 2.5 GbE RJ45
Gigabit network interface	16 x GbE RJ45  Note Ports 15 and 16 also support GbE SFP.
External I/O Ports & Expansion Slots	
USB ports	3 x USB 3.2 Gen 1 Type-A
HDMI ports	2 x HDMI 2.0
Interface	

Component	QVP-41B
Buttons	• Power • Reset
Dimensions	
Form factor	Tower
Dimensions (H x W x D)	130 x 295 x 224.8 mm (5.19 x 11.61 x 8.85 in)
Net weight	4.08 kg (8.99 lbs)
Others	
Power supply unit	1 x 250W, 100-240V AC, 50/60Hz
System battery	CR2032 lithium battery (3V, 225 mAh)  Warning • This battery is 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. • 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.  Important Dispose of used batteries according to local regulations or the instructions of the battery manufacturer.
Fans	1 x 120 mm, 12V DC fans
Operating temperature	0°C to 40°C (32°F to 104°F)
Relative humidity	• Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F)

**Tip**

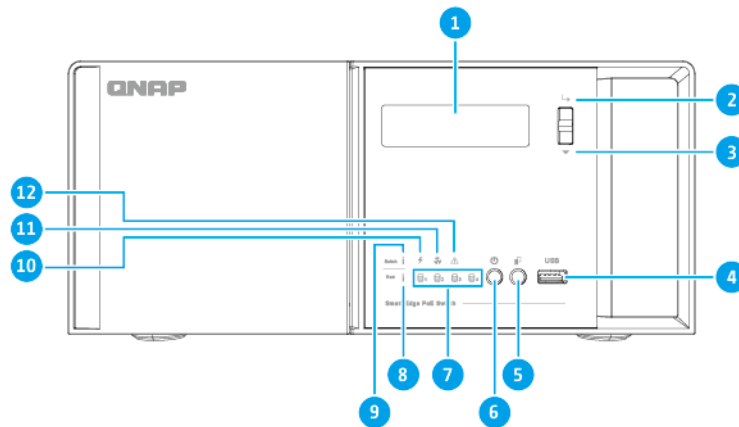
For the list of compatible drive models and expansion cards, go to <https://www.qnap.com/compatibility>.

Package Contents

Item	Quantity
QVP-41B	1
Power cords	1
Ethernet cable	1 x Cat5e (RJ45)
Drive tray key	1
Screws for 3.5-inch drives	16
Screws for 2.5-inch drives	12
Heatsinks	2
Quick Installation Guide (QIG)	1

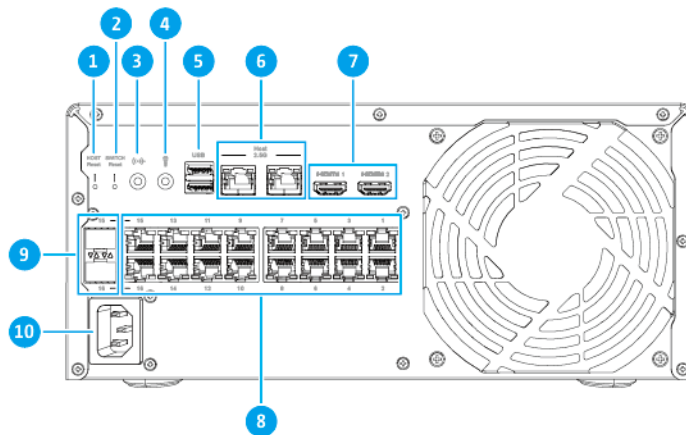
Components

Front Panel



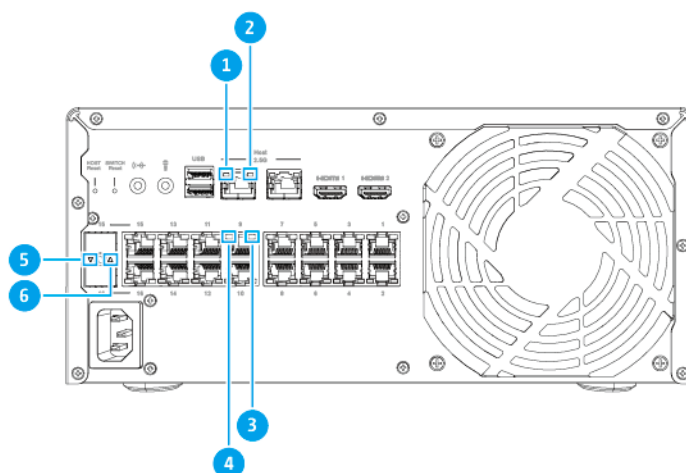
No.	Component	No.	Component
1	LCD panel	7	Drive LEDs
2	LCD enter button	8	Status LED
3	LCD select button	9	Switch status LED
4	USB 3.2 Gen 1 One Touch Copy Type-A port	10	PoE LED
5	USB One Touch Copy button	11	Fan LED
6	Power button	12	Warning LED

Rear Panel



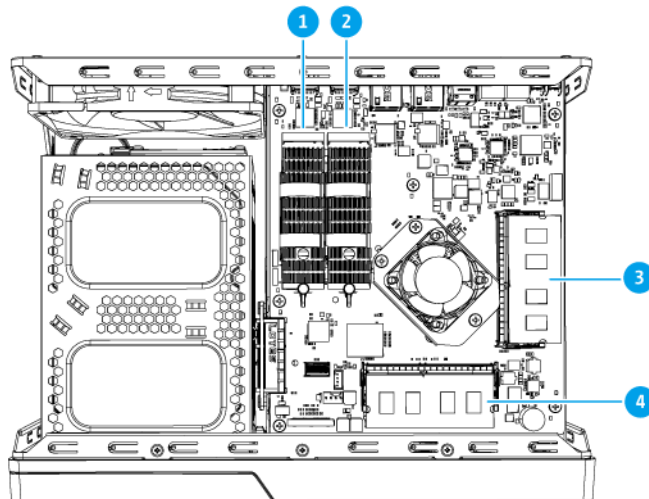
No.	Component	No.	Component
1	Host reset button	6	2.5 Gigabit Ethernet ports (RJ45)
2	Switch reset button	7	HDMI 2.0 ports
3	3.5 mm line-out jack	8	Gigabit 802.3at PoE+ RJ45 ports
4	3.5 mm dynamic microphone jack	9	Gigabit RJ45/SFP combo ports
5	USB 3.0 Type-A ports	10	Power input

Rear Panel LEDs



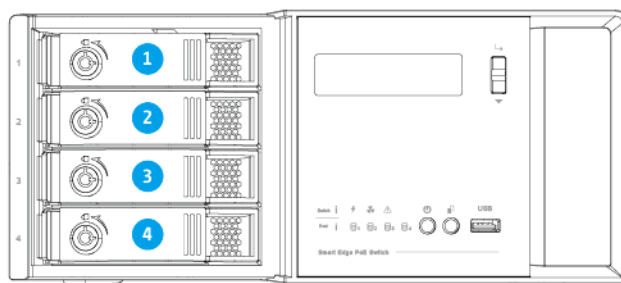
No.	Component	No.	Component
1	2.5 Gigabit Ethernet activity LED	4	Gigabit 802.3at PoE+ port activity LED
2	2.5 Gigabit Ethernet speed LED	5	Combo port activity LED
3	Gigabit 802.3at PoE+ port speed LED	6	Combo port speed LED

System Board



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

Drive Numbering



**Note**

This image shows the device with the front panel removed.

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.

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Devices with redundant power supply may have one or more power supply unit (PSU) cords. To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

System Battery

- 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	• 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 device ventilation or apply pressure to the device or power cord
Hardware and peripherals	• Computer or NAS • Storage drives For the list of compatible drive models, go to https://www.qnap.com/compatibility. • Network cable
Tools	• Phillips #1 or #2 screwdriver • Flat head screwdriver • Anti-static wrist strap

Setting Up the Surveillance Server

1. Place your device in an environment that meets the requirements.
For details, see [Installation Requirements](#).
2. Install drives.
For details, see the following topics:
 - [Installing 3.5-inch Hard Drives on 3.5-inch Trays](#)
 - [Installing 2.5-inch Hard Drives and Solid-State Drives on 3.5-inch Trays](#)
 - [Installing M.2 Solid-State Drives](#)

For a list of compatible drives, go to <http://www.qnap.com/compatibility>

3. Optional: Replace memory modules.
For details, see [Replacing Memory Modules](#).

4. Power on the device.
For details, see [Front Panel](#).
5. Connect the device to a computer or network.
For details, see [Connecting the Device to a Computer or Network](#).
6. Install QVP.
For details, see [QVP Installation](#).
7. Log on to QVP.
8. Configure switch settings on the device.
For details, see [Device Management Application Access](#).

3. Installation and Configuration

This chapter provides specific hardware and firmware installation and configuration steps.

Hardware Installation

This section provides information on installing drives, replacing memory modules, and connecting to a computer or network.

Drive Installation

The QVP-41B is compatible with 3.5-inch hard disk drives, 3.5-inch solid-state drives, 2.5-inch hard disk drives, 2.5-inch solid-state drives, and M.2 solid-state drives.

Installing 3.5-inch Hard Drives on 3.5-inch Trays



Warning

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

-



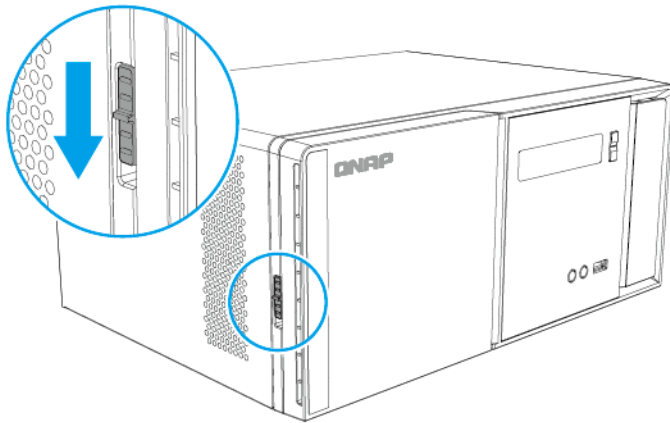
Moving fan blades: Keep your hands and other body parts away from moving fan blades.

-

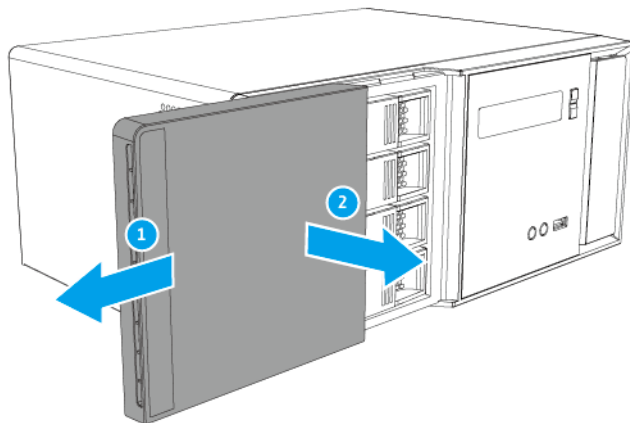


Other moving components: Keep your hands and other body parts away from other moving components.

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

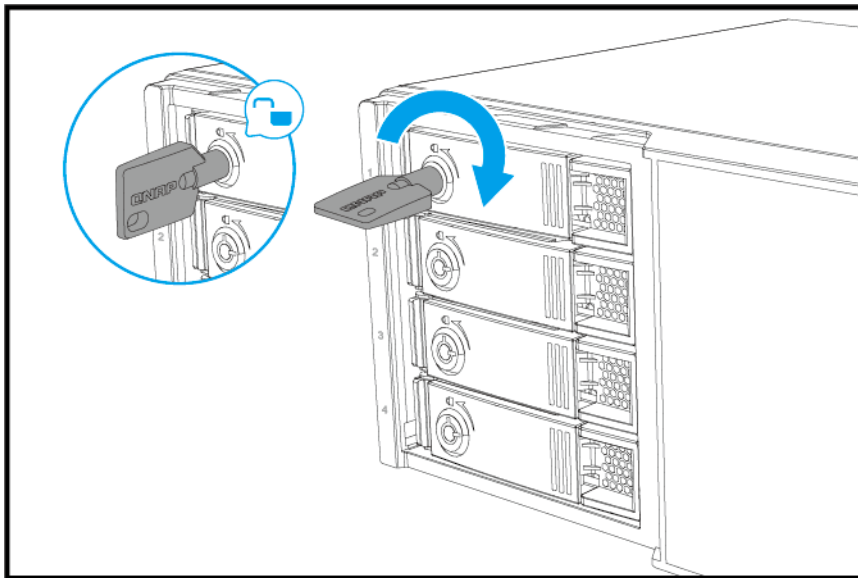


- c. Slide the front cover to the left and then pull.



3. Remove the drive tray.

- a. Optional: Unlock the tray.

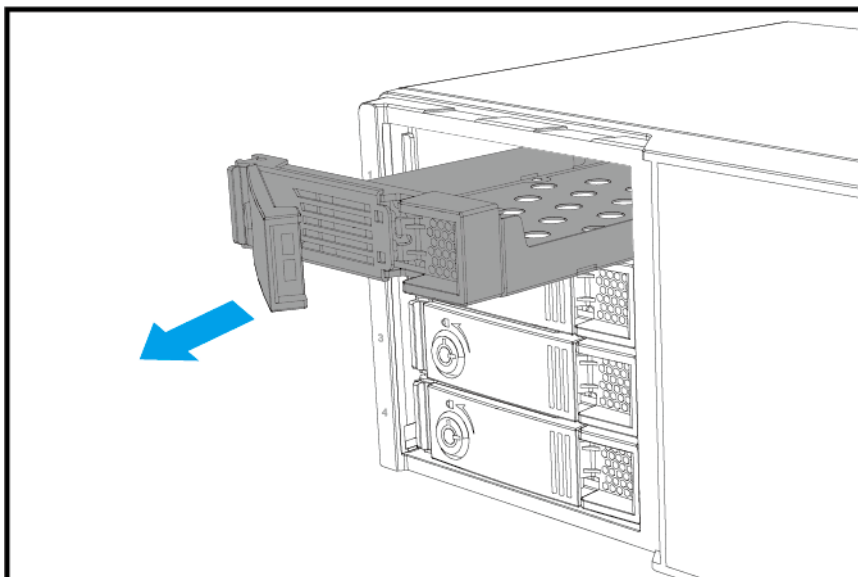
**Note**

The preinstalled drive trays come unlocked.

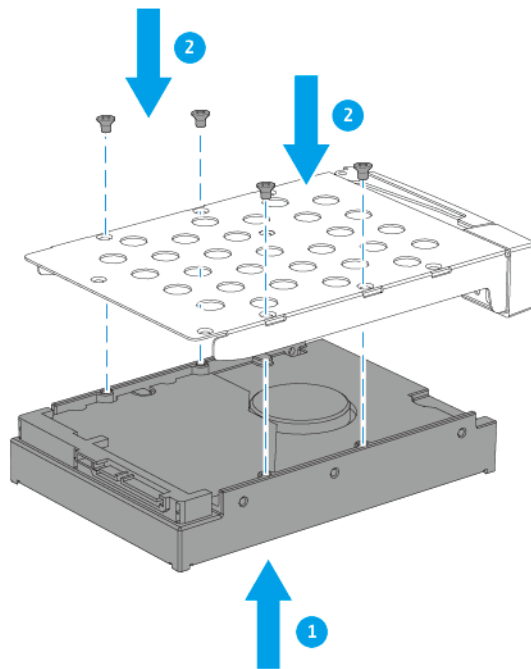
**Important**

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

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

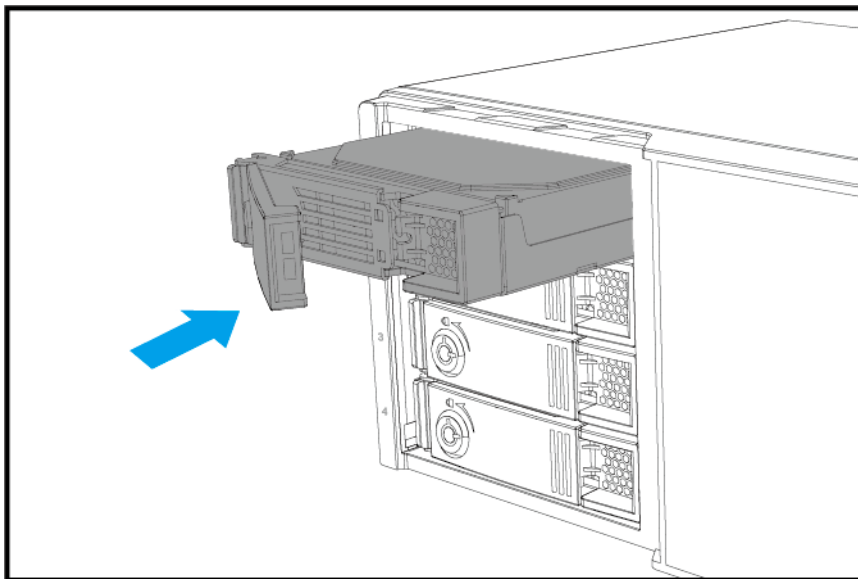
**4. Install a drive on the tray.**

- a. Place the drive on the tray so that the holes on the sides of the drive are aligned with the holes on the sides of the tray.
- b. Optional: Attach the screws to further secure the drive.

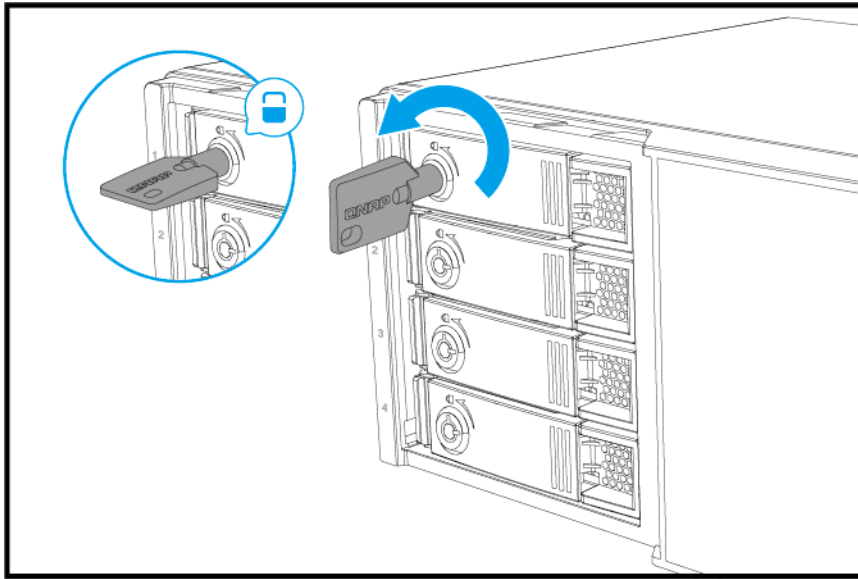


5. Load the tray into the bay.

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

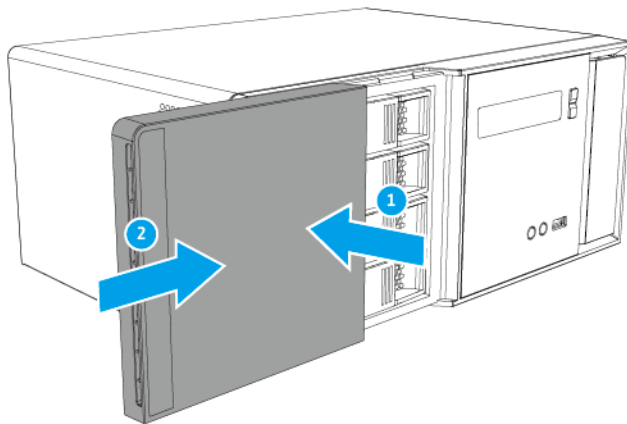


- c.** Lock the tray.

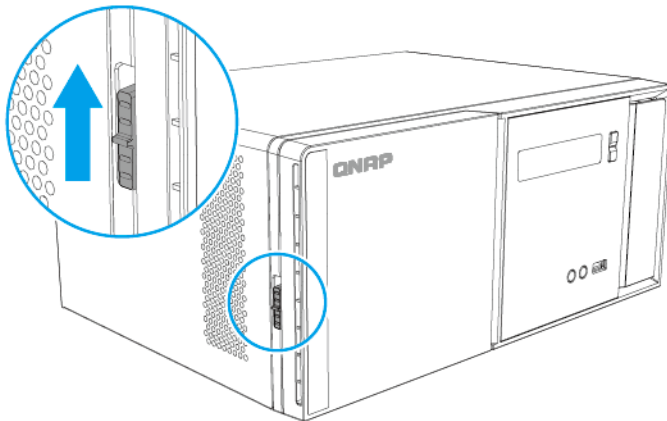


6. Attach the front cover.

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



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



7. Power on the device.

Installing 2.5-inch Hard Drives and Solid-State Drives on 3.5-inch Trays



Warning

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



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

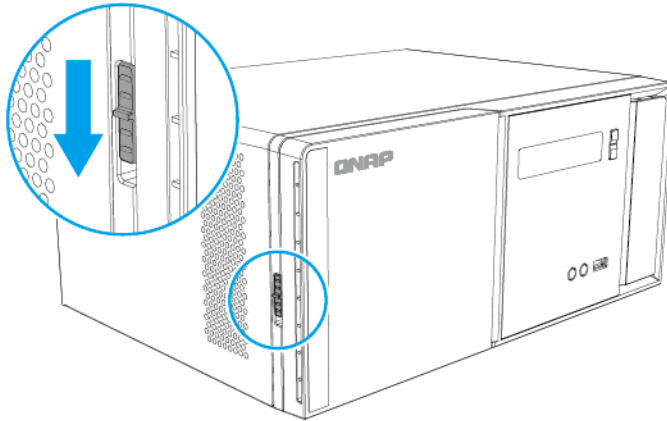
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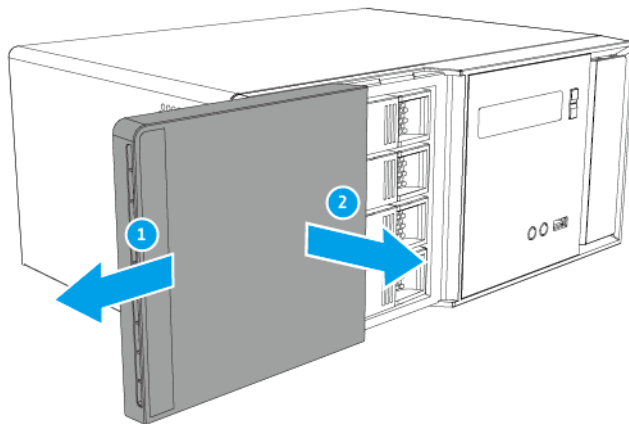
Other moving components: Keep your hands and other body parts away from other moving components.

1. Power off the device.
2. Remove the front cover.
 - a. Locate the locking mechanism on the left side of the device.

- b.** Slide the lock down to release the front cover.

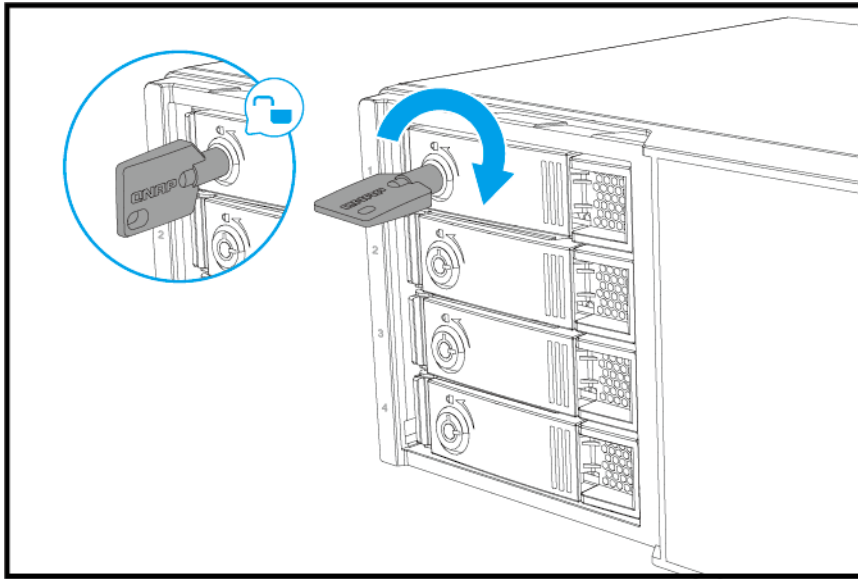


- c.** Slide the front cover to the left and then pull.



- 3.** Remove the drive tray.

- a.** Optional: Unlock the tray.

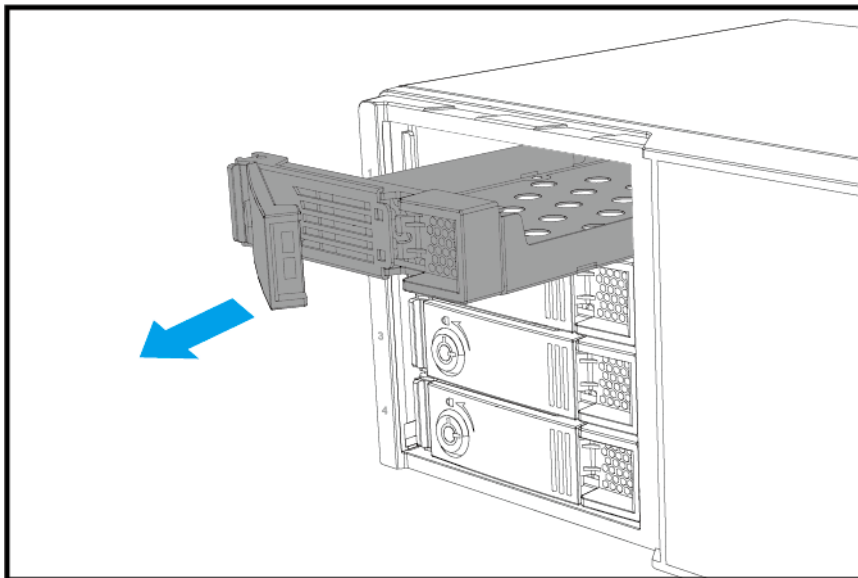
**Note**

The preinstalled drive trays come unlocked.

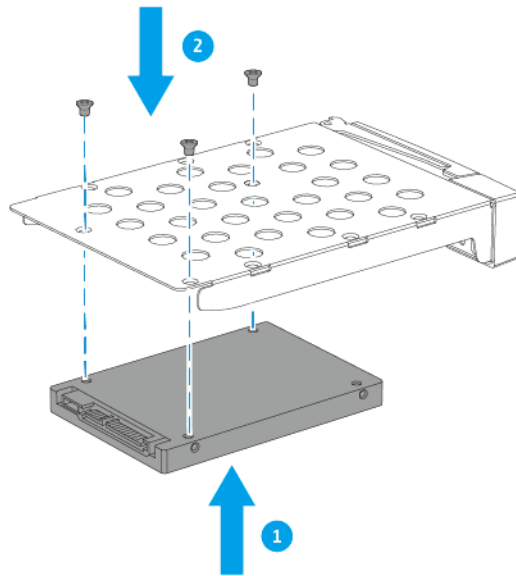
**Important**

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

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

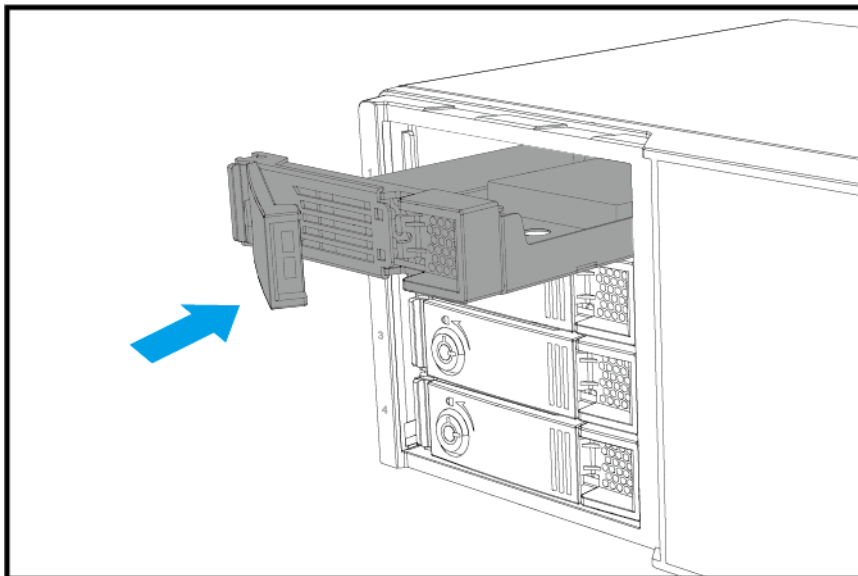
**4. Install a drive on the tray.**

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

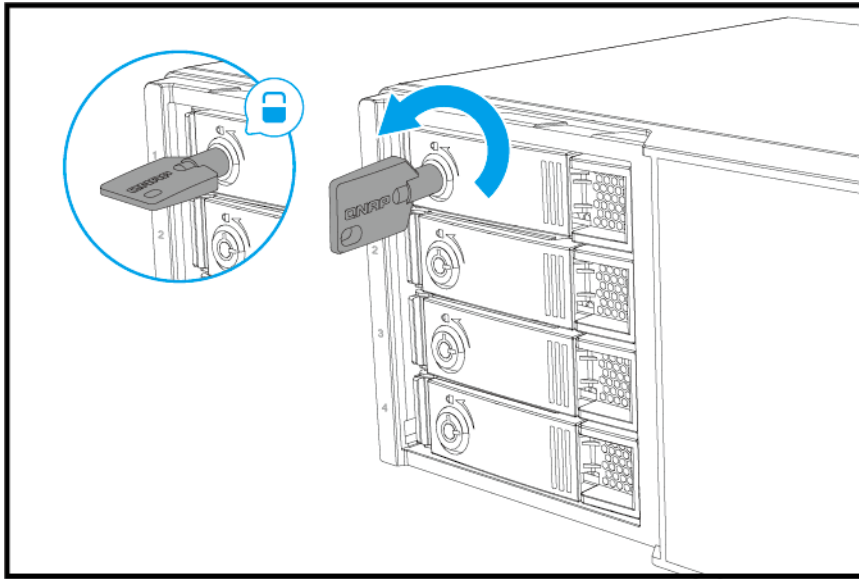


5. Load the tray into the bay.

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

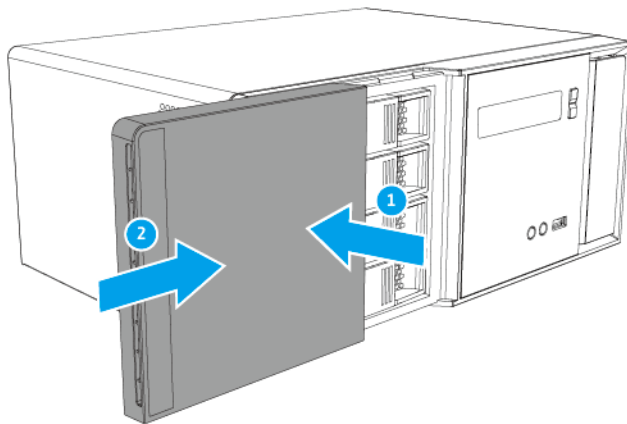


- c. Lock the tray.**

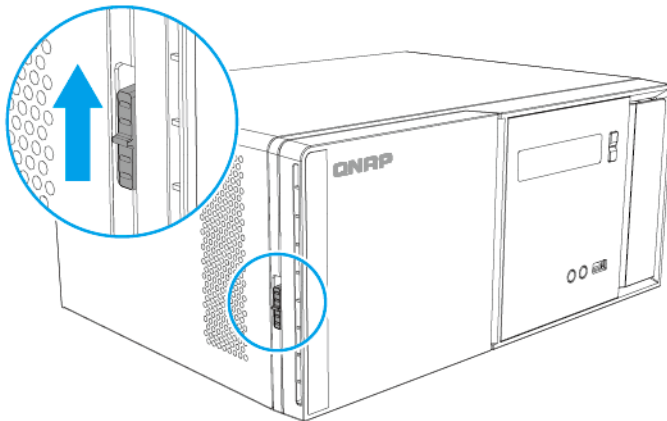


6. Attach the front cover.

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



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



7. Power on the device.

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.

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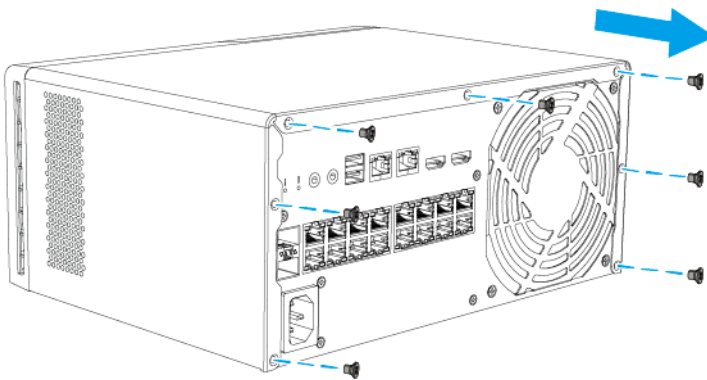
Other moving components: Keep your hands and other body parts away from other moving components.



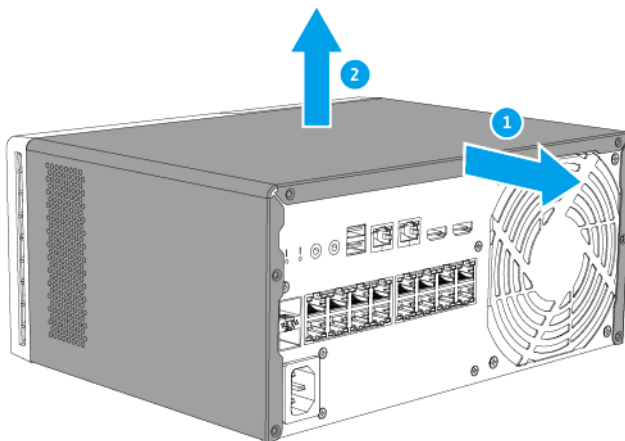
Note

- 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. Loosen the screws.



- b. Slide the cover back.
- c. Lift the cover off the device.



5. Install a heatsink on the M.2 SSD.

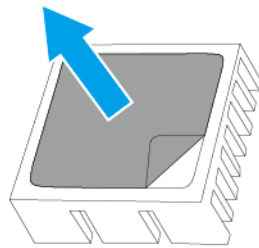
- a. Locate the controller on the M.2 SSD.



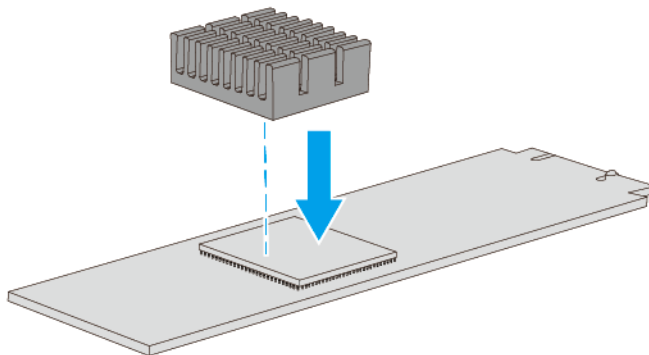
Note

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.

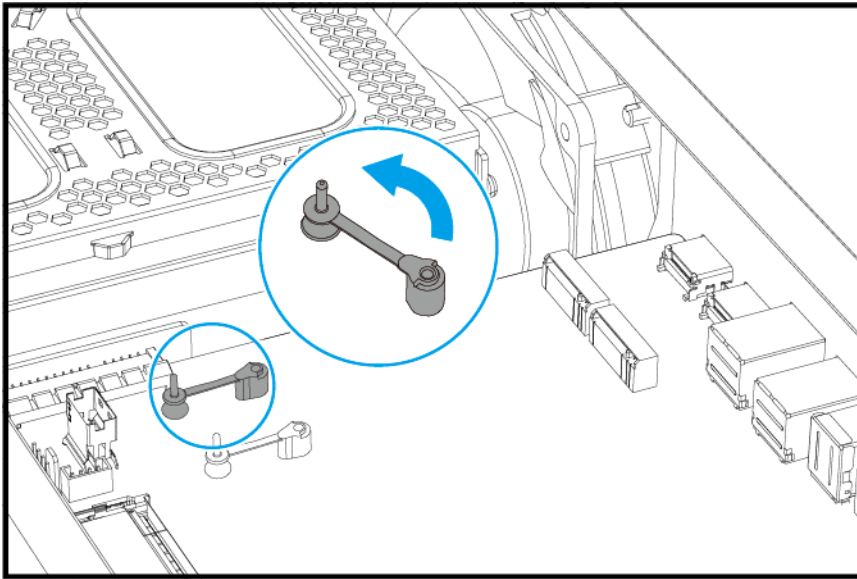


- c. Install the heatsink on the controller.



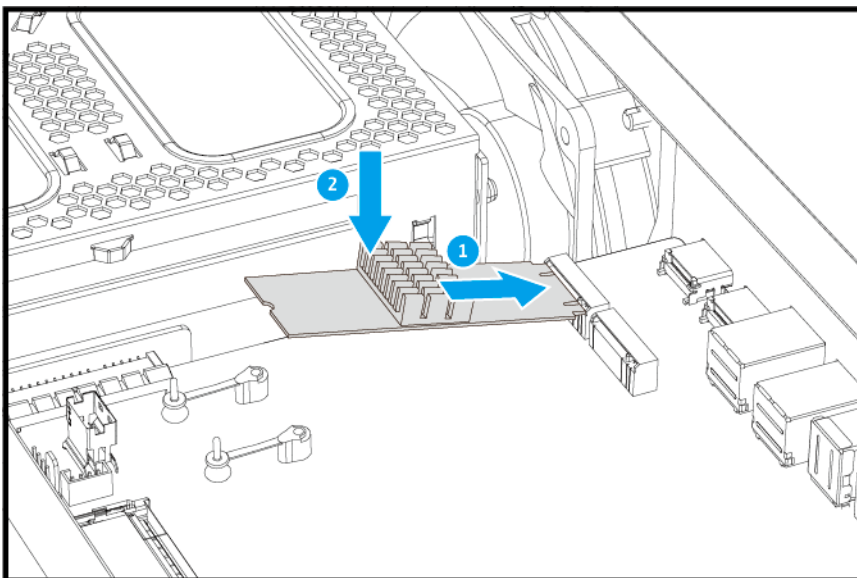
6. Install the M.2 SSD.

- a. Pull out the pushpin.

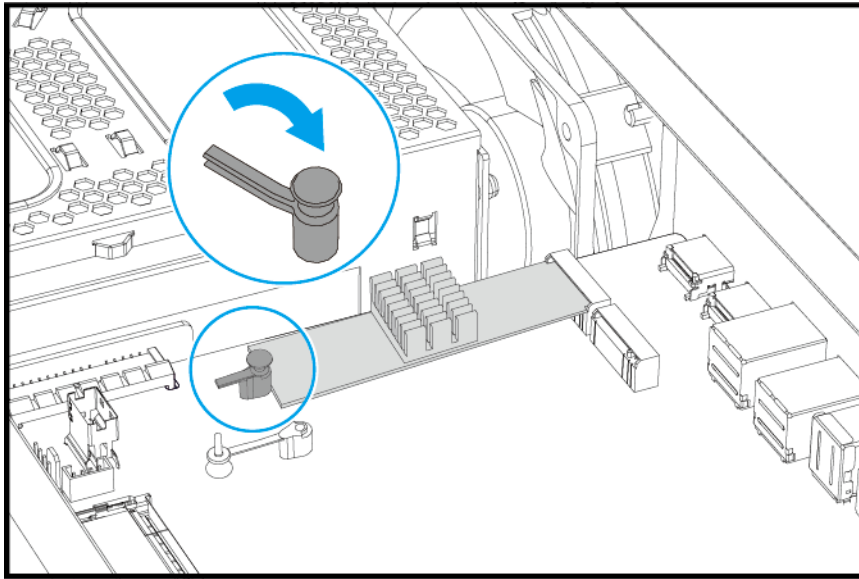


b. Insert the M.2 SSD into the slot.

c. Push down the M.2 SSD.

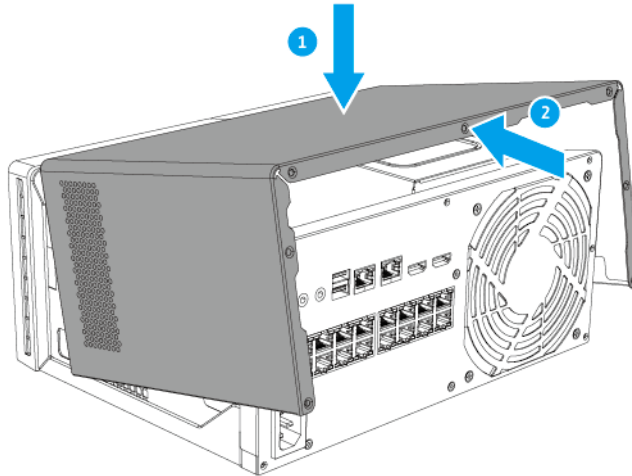


d. Insert the pushpin to secure the drive.

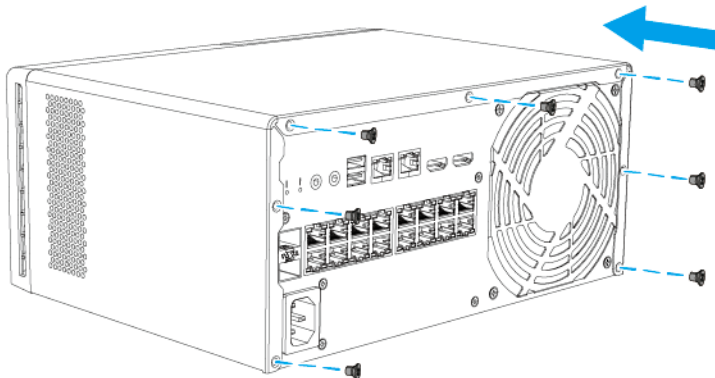


7. Attach the case cover.

- a.** Place the cover on the device.
- b.** Slide the cover forward.



- c.** Tighten the screws.



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

Replacing Memory Modules

The QVP-41B has two memory slots. You can increase the memory capacity of the device by upgrading memory modules.

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

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



Warning

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

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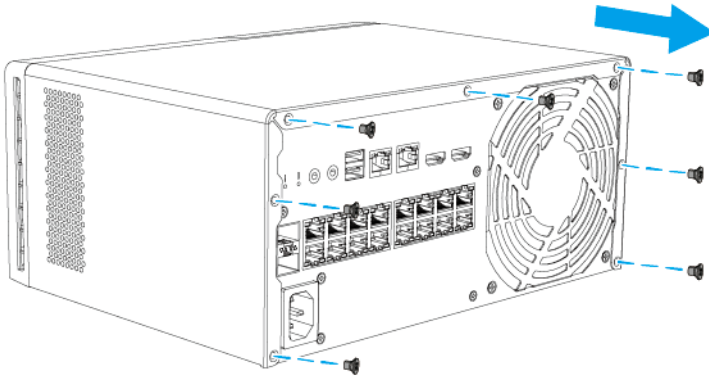
Moving fan blades: Keep your hands and other body parts away from moving fan blades.

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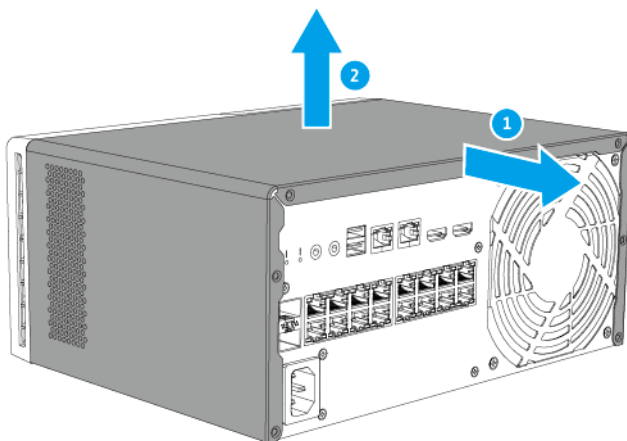


Other moving components: Keep your hands and other body parts away from other moving components.

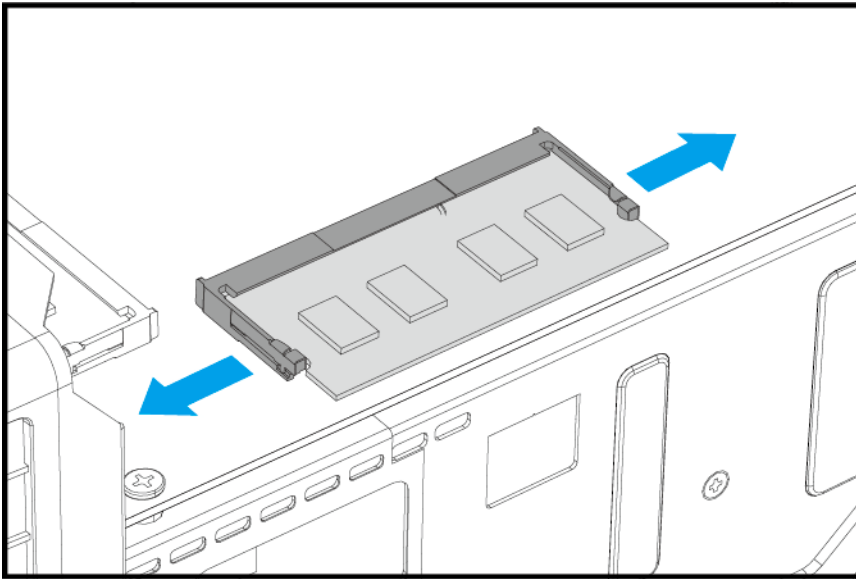
1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
 - a. Loosen the screws.



- b. Slide the cover back.
 - c. Lift the cover off the device.



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

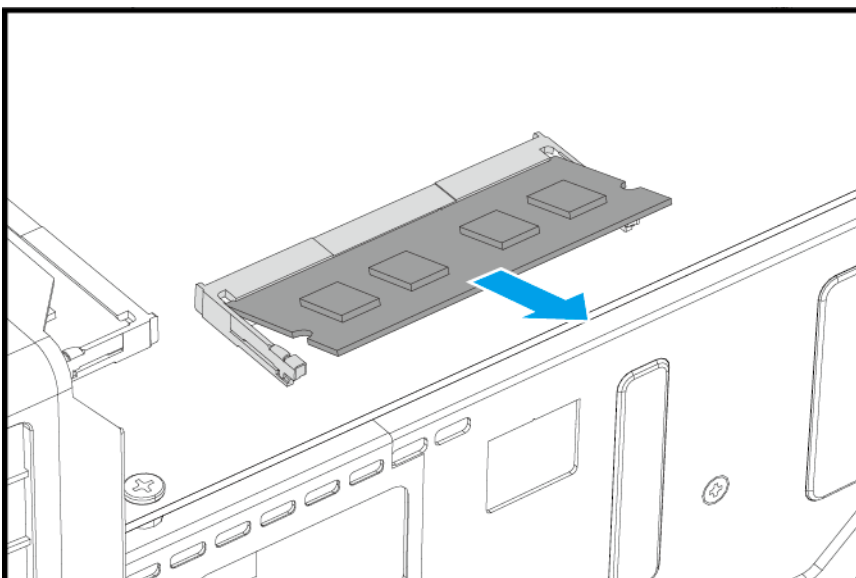
**Warning**

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

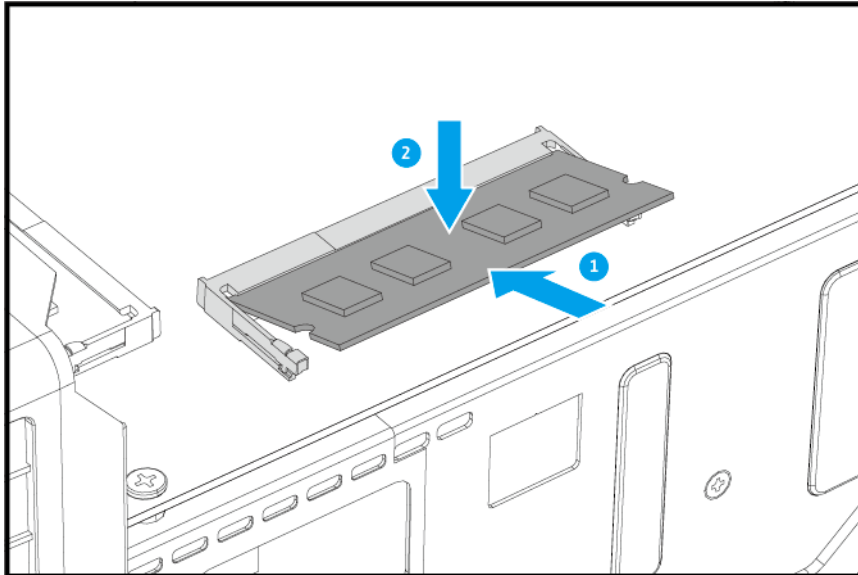
- b. Verify that the module has tilted upward and is completely released from the slot.
- c. Hold the module by the edges.
- d. Carefully slide the module out of the slot.

**Warning**

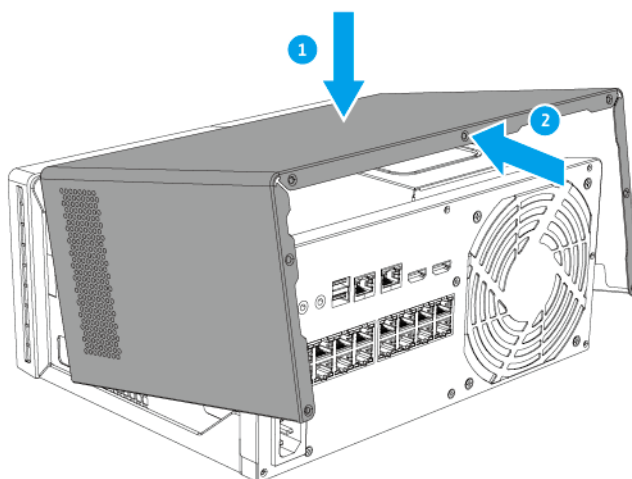
- Do not touch the internal components, particularly the metal connectors.
- Do not bend the module.



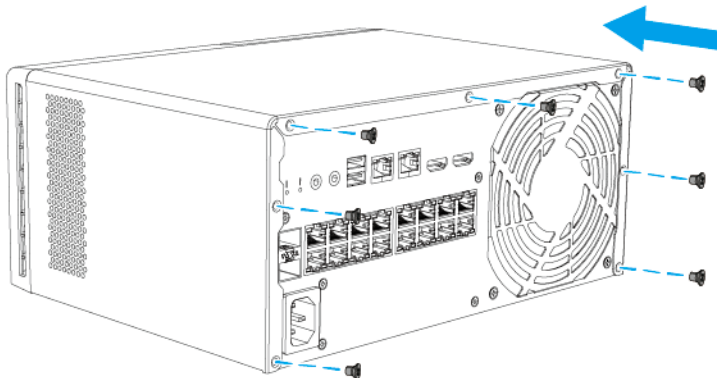
6. Install a new module.
 - a. Align the notch with the ridge in the slot.
 - b. Insert the module into the slot.
 - c. Verify that the metal connectors are completely inserted into the slot.
 - d. Carefully press down on the module until the retention clips lock the module into place.



7. Attach the case cover.
 - a. Place the cover on the device.
 - b. Slide the cover forward.



- c. Tighten the screws.



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

Connecting the Device to a Computer or Network

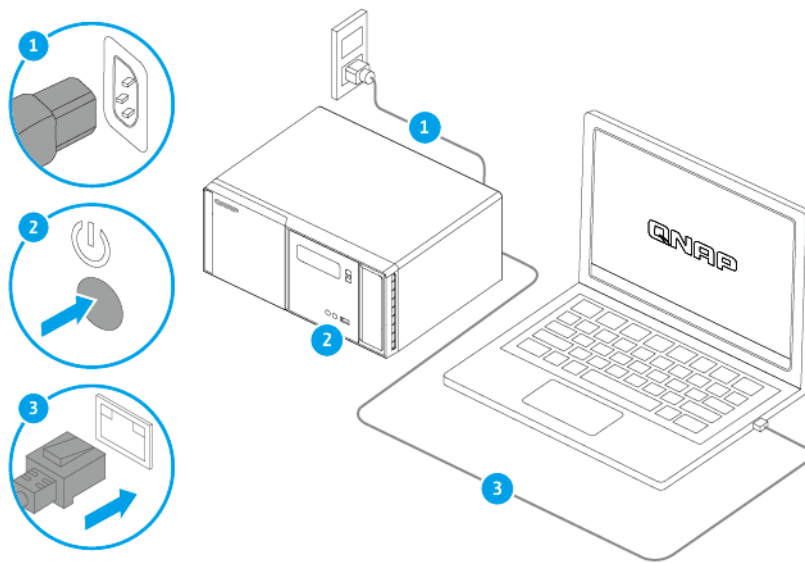
The QVP-41B can be connected to a computer or local area network. For details, see the following topics:

- [Connecting the Device to a Computer](#)
- [Connecting the Device to a Network](#)

Connecting the Device to a Computer

Connecting the QVP-41B to a QNAP NAS allows you to expand storage capacity and back up data to the NAS through Ethernet cable connections to a PoE port on the device. However, you must connect the QVP-41B to a computer to configure device settings.

1. Power on the device.
2. Connect the device to a computer.
 - a. Connect an Ethernet cable to a PoE port on the device.
 - b. Connect the Ethernet cable to a Gigabit Ethernet port on the computer.



3. Verify that the device is recognized by the computer.

- a. Open Qfinder Pro on the host computer.



Note

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

- b. Locate the device on the list.

Connecting the Device to a Network

The QVP-41B can connect to the local area network through the host port or a PoE port.

1. Power on the device.
2. Connect the device to your local area network through one of the following port types:

Type	Method
Host Port	Select the device IP address obtained from Adapter 1 on the LCD panel.
PoE Port	Select device IP addresses obtained from Adapter 2 or Adapter 3 on the LCD panel.

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. Enter the IP address in the Qfinder Pro search bar.
5. Locate the device in the list and then double-click the name or IP address.
The QVP login screen appears.
6. Enter your QVP login information.

7. Click **Log In**.

QVP Installation

The QVP-41B uses the QNAP QVP operating system. You can install QVP using any of the following methods.

Method	Description	Requirements
Qfinder Pro installation (Recommended)	If the device is connected to your local area network, you can do the following: • Locate the device using Qfinder Pro. • Complete the steps in the Smart Installation Guide wizard.	• Computer • Network cable • Qfinder Pro installer
Local installation	If the device supports HDMI output, you can do the following: • Connect the device to the required hardware. • Complete the steps in the Smart Installation Guide wizard.	• Monitor • HDMI cable • USB keyboard or Remote control (not available on all models)

Installing QVP Using Qfinder Pro



Warning

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

1. Power off the device.
2. Connect the device to your camera's local area network.



Note

For details, see "Adding Cameras" in the [QVP User Manual](#).

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 device on the list and then double-click the name or IP address.
The **Smart Installation Guide** opens in the default web browser.
5. Click **Start Smart Installation Guide**.
6. Specify the following information.
 - **NAS name:** Specify a name with 1 to 14 characters. The NAS name can contain the following characters:
 - Letters (A to Z, a to z)
 - Numbers (0 to 9)
 - Hyphens (-)

**Note**

The NAS name cannot end with a hyphen.

- **Password:** Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.

7. Click **Next**.

8. Specify the time zone, date, and time.

**Tip**

QNAP recommends connecting to an NTP server to ensure that the device follows the Coordinated Universal Time (UTC) standard.

9. Click **Next**.

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

11. Click **Next**.

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

13. Click **Next**.

14. Configure the disk settings.

- Select disks for creating a volume.
- Select a RAID type.

15. Click **Next**.

16. Review the settings.

17. Click **Apply**.

A confirmation message appears.

**Warning**

Clicking **Confirm** deletes all data on the drive before starting the installation.

18. Click **Confirm**.

QVP is installed.

**Note**

The QVP installation may take up to 20 minutes to complete.

Installing QVP Using an HDMI Connection

**Warning**

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

1. Connect an HDMI display to the device.

2. Connect a USB keyboard to the device.

3. Connect the device to the network switch or router that your cameras are connected to.

**Note**

For more details, see "Adding Cameras" in the [QVP User Manual](#).

4. Power on the device.
The **Welcome** screen of the **Smart Installation Guide** appears.
5. Select **Start Smart Installation Guide**.
The disk configuration screen appears.
6. Select disks for creating a storage pool.
7. Click **Next**.
8. Select the RAID type.
9. Click **Next**.
10. Review the settings.
11. Click **Next**.
The **Confirm** screen appears.

**Warning**

Clicking **Next** deletes all data on the drive before installation starts.

12. Click **Next**.

QVP is installed.

**Note**

The QVP installation may take up to 20 minutes to complete.

Device Management Application Access

You can manage the QVP-41B device using the following software interfaces:

Application	Description
QuNetSwitch	Switch management application for QVP. QuNetSwitch comes preinstalled with QVP. To access QuNetSwitch, see Accessing QuNetSwitch in QVP .
QSS	Switch management system for QNAP switches. QSS comes preinstalled on the switch. To access QSS, Accessing QSS with Qfinder Pro .

Accessing QuNetSwitch in QVP

**Note**

You must create a default system volume before using QuNetSwitch.
For more details, see the QVP User Guide.

1. Power on the device.
2. Log on to QVP.

**Note**

For details, see [Connecting the Device to a Network](#).

3. Go to **Main Menu > QuNetSwitch**.
4. Continue with switch management.

**Note**

For details on switch management, see the QuNetSwitch User Guide.

Accessing QSS with Qfinder Pro

**Note**

You must create a default system volume before using QuNetSwitch.

1. Power on the device.
2. Connect the device to your local area network.
For details, see [Connecting the Device to a 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. Enter the switch IP address.
The switch IP address will be displayed as %yourNAS name%- switch.
5. Locate the switch in the list and then double-click the name or IP address.
The QSS login screen appears.
6. Log in to QSS.
The QSS default login details are as follows:
 - Username: admin
 - Password: admin
 The **Welcome** window appears.
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. Continue with switch management.

**Note**

For details on switch management, see the QuNetSwitch User Guide.

4. Basic Operations

This chapter describes basic device operations.

Buttons

Power Button

Operation	User Action	Result
Power on	Press the button once.	The device powers on and logs on to QVP.
Power off	Press and hold the button for 1.5 seconds.	The device powers off and logs out of QVP.
Force power off	Press and hold the button for 5 seconds.	The device shuts down.  Important Use this method only when the device is unresponsive.

Host Reset Button

Operation	User Action	Result
Basic system reset	Press and hold the button for 3 seconds.	The following QVP settings are reset to default: • System administrator password: admin • TCP/IP configuration: 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 QVP settings are restored.  Tip To retrieve old data after an advanced system reset, recreate the previous folder structure on the device.

Switch Reset Button

Operation	User Action	Result
Reset	Press and hold the button for 3 seconds.	The switch resets and all default settings are restored.

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 device.

- IP address
 - Subnet mask
 - Default gateway
 - Primary DNS
 - Secondary DNS
1. Press **Enter** or **Select**.
The panel displays the device name and QVP 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 device name and QVP 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 **Enter** to configure the settings.

Button	Usage
Enter	• Display a configuration screen. • Move to the next item on a configuration screen.
Select	• Move to the next item on a menu. • Modify a value on a configuration screen.

Repeat this step if necessary.

Viewing Drive Information

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

1. Press **Enter** or **Select**.
The panel displays the device name and the QVP 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 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 device name and QVP 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 Device

1. Press **Enter** or **Select**.
The panel displays the device name and QVP 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 device powers off.

Restarting the Device

1. Press **Enter** or **Select**.
The panel displays the device name and QVP 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 device restarts.

Changing the LCD Password

Specifying a password for the LCD panel prevents unauthorized access.

1. Press **Enter** or **Select**.
The panel displays the device name and QVP 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.

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 device 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.
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
Host status	Green	The host system is ready.
	Flashes green every 1.0 sec	The host system is starting up.
	Red	A fatal host system error occurred.
	Off	The host system is powered off.
Switch status	Green	The switch is ready.
	Flashes green every 1.0 sec	The switch is starting up.
	Red	A fatal switch system error occurred.
	Off	The switch system is powered off.
PoE	Green	The PoE status is normal.
	Red	A fatal PoE error occurred.

LED	Status	Description
Fan	Green	The fan status is normal.
	Red	A fatal fan error occurred.
PoE port speed	Flashes green every 1.0 sec	The link speed is operating at 1 Gbps.
	Flashes amber every 1.0 sec	The link speed is operating at 10/100 Mbps.
	Off	No link was detected.
PoE port activity/link	Green	The switch is connected to a power device.
	Amber	A power device error occurred.
	Off	No power device was detected.
Combo port speed	Flashes green every 1.0 sec	The link speed is operating at 1 Gbps.
	Flashes amber every 1.0 sec	The link speed is operating at 10/100 Mbps.
	Off	No link was detected.
Combo Port activity/link	Flashes amber every 1.0 sec	Data is being transferred.

Audio Alert

Duration	Frequency	Description
Short beep (0.5 seconds)	1	- The device is starting up. - When the reset button is pressed for 3 seconds, the device resets configuration. - When the reset button is pressed for 10 seconds, the device resets configuration and reboots. - The operating system was updated.
	3	Cannot detect installed disk.
Long beep (1.5 seconds)	3 (every 5 minutes)	- A power error occurred. - A system fan is not functioning. - A fan module has been removed. - The device data cannot be copied to the external storage device connected to the front USB port.
	2	- A disk volume is about to reach its full capacity. - A disk volume has reached its full capacity. - A volume status error occurred. - A drive is plugged in or out.
	1	- The device was powered off by force shutdown (hardware shutdown). - The device was powered on successfully and is ready.
Long beep (5 seconds)	1	QVP is restarting.

5. Troubleshooting

This chapter describes basic troubleshooting information.

Hot-Swapping Failed Drives

The device 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.

1. Log on to QVP.
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 device 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 device 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, RAID 6, RAID 10, or RAID 50 volume from degraded mode.

RAID Type	RAID Recovery Support	Number of Disks	Disk Failure Tolerance
Single	No	1	N/A
JBOD	Yes	≥ 2	N/A
RAID 0	Yes	≥ 2	N/A
RAID 1	Yes	2	1
RAID 5	Yes	≥ 3	1
RAID 6	Yes	≥ 4	2

RAID Type	RAID Recovery Support	Number of Disks	Disk Failure Tolerance
RAID 10	Yes	≥ 4 (Must be an even number)	One disk per subgroup fails.
RAID 50	Yes	≥ 6	One disk per subgroup fails.

Forcing Qfinder Pro to Locate the Device

If Qfinder Pro is unable to locate the device during QVP installation, the drives or data may be faulty.

1. Power off the device.
2. Remove all drives.
3. Power on the device.
4. Locate the device using Qfinder Pro.
5. Reinsert the drives.
6. Continue with the QVP installation.

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/go/nas-migration
Expansion Unit Compatibility	https://www.qnap.com/go/compatibility-expansion
Service Portal	https://service.qnap.com
Product Support Status	https://www.qnap.com/go/product/eol.php
Downloads	https://download.qnap.com
Community Forum	https://forum.qnap.com
QNAP Accessories Store	https://shop.qnap.com

6. Glossary

myQNAPcloud

Provides various remote access services such as DDNS and myQNAPcloud Link

myQNAPcloud Link

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

Qfinder Pro

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

QuNetSwitch

QNAP switch management app that runs on the QVP operating system

QSS

QNAP switch management application

QVP

Operating system dedicated for QNAP surveillance services

7. Notices

This chapter provides information about warranty, disclaimers, licensing, and federal regulations.

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Version 3, 29 June 2007

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2. Source Code.

The “source code” for a work means the preferred form of the work for making modifications to it.

“Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

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END OF TERMS AND CONDITIONS

CE Notice



This device 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



SJ/T 11364-2006



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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
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