

**QNAP**

# QGD-3014-16PT

## 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 QGD-3014-16PT

The QGD-3014-16PT is a QNAP smart-edge network switch specially designed for surveillance applications. The switch features built-in storage capacity that can house four 3.5-inch SATA hard drives, software-defined networking (SDN) to support multiple SMB applications, including NAS, NVR, router, surveillance, and virtual machines. The QGD-3014-16PT features 16-port 30-watt Gigabit power over Ethernet (PoE) and two 2.5GbE host management ports for fast data transfer. The switch's dual-CPU design offers Layer 2 management functions for VM and QTS applications.

### 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	CPU	Memory	Power supply
QGD-3014-16PT-8G	Intel Celeron ® J4125	8 GB	Single

Component	QGD-3014-16PT-8G
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 GB DDR4 SODIMM
Memory slots	2 x DDR4 SODIMM
	 <p><b>Note</b> Use only QNAP memory modules to maintain system performance and stability. For 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.</p>

Component	QGD-3014-16PT-8G
Maximum memory	8 GB RAM: 2 x 4 GB
Flash memory	4 GB (dual-boot OS protection)
Storage	
Drive bays	4 x 3.5-inch SATA 6 Gbps   <b>Note</b> The 3.5-inch SATA 6 Gbps drive bays are backward compatible with SATA 3 Gbps drives.
Drive compatibility	3.5-inch bays: <ul style="list-style-type: none"> <li>• 3.5-inch SATA hard disk drives</li> <li>• 3.5-inch SATA solid-state drives</li> <li>• 2.5-inch SATA hard disk drives</li> <li>• 2.5-inch SATA solid-state drives</li> </ul>
M.2 SSD slots	2 x M.2 SATA
M.2 SSD form factor	2230
SSD cache acceleration support	3.5-inch drive bays:1-4
Hot-swapping	Supported
Network	
2.5 Gigabit Ethernet ports	2 x 2.5 GbE RJ45
Gigabit Ethernet ports	<ul style="list-style-type: none"> <li>• 2 x 1 GbE RJ45/SFP combo ports</li> <li>• 14 x 1 GbE RJ45</li> </ul>
PoE support	
802.3at (PoE+)	Ports 1 to 16   <b>Note</b> The ports support IEEE 802.3at-2009 PoE standard and provide up to 30W of DC power.
PoE max power port	30W
Total PoE power budget	140W
Total power consumption	250W
External I/O Ports & Expansion Slots	
USB ports	Front: 1 x USB 3.0 Type-A   <b>Note</b> This USB port supports One Touch Copy.  Rear: 2 x USB 3.0 Type-A
HDMI ports	2 x HDMI 2.0 (up to 3840 x 2160 resolution at 30 Hz with HDR)

Component	QGD-3014-16PT-8G
Audio ports	<ul style="list-style-type: none"> <li>• 1 x 3.5 mm dynamic microphone jacks</li> <li>• 1 x 3.5 mm line-out jack</li> </ul> <div style="display: flex; align-items: center;">  <p><b>Note</b> You cannot use speakers and line-out jacks simultaneously.</p> </div>
Interface	
Display panel	Monochrome backlit LCD display
Buttons	<ul style="list-style-type: none"> <li>• Enter</li> <li>• Select</li> <li>• Power</li> <li>• Switch reset button</li> <li>• Host reset button</li> <li>• USB One Touch Copy</li> </ul>
Dimensions	
Form factor	Tower
Dimensions (H x W x D)	130 x 295 x 224.8 mm (5.12 x 11.61 x 8.85 in)
Net weight	4.08 kg (8.99 lbs)
System battery	CR2032 lithium battery (3V, 225 mAh)
Fans	1 x 120 mm, 12V DC fan
Operating temperature	0°C to 40°C (32°F to 104°F)
Relative humidity	<ul style="list-style-type: none"> <li>• Non-condensing relative humidity: 5% to 95%</li> <li>• Wet-bulb temperature: 27°C (80.6°F)</li> </ul>

**Tip**

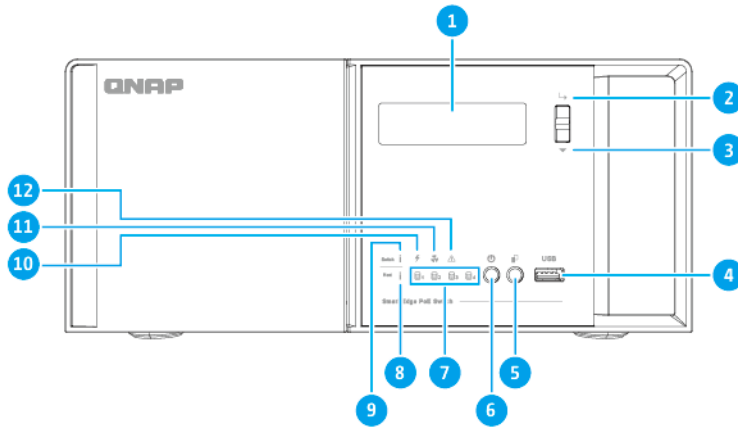
For the list of compatible drive models and expansion cards, go to <https://www.qnap.com/compatibility>.

## Package Contents

Item	Quantity
QGD-3014-16PT	1
AC power adapter	1
Power cord	1
Ethernet cables	1 x 1GbE (RJ45)
Drive tray key	1
Screws for 3.5-inch drives	16
Screws for 2.5-inch drives	12
Quick Installation Guide (QIG)	1

## Components

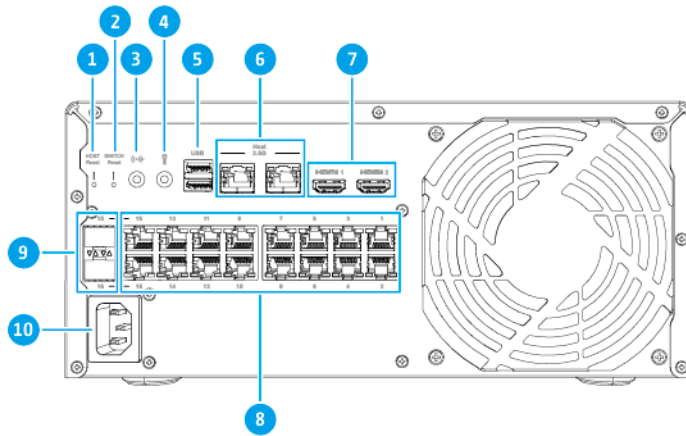
### Front Panel



No.	Component	No.	Component
1	LCD panel	7	Drive LEDs
2	Enter button	8	Status LED
3	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

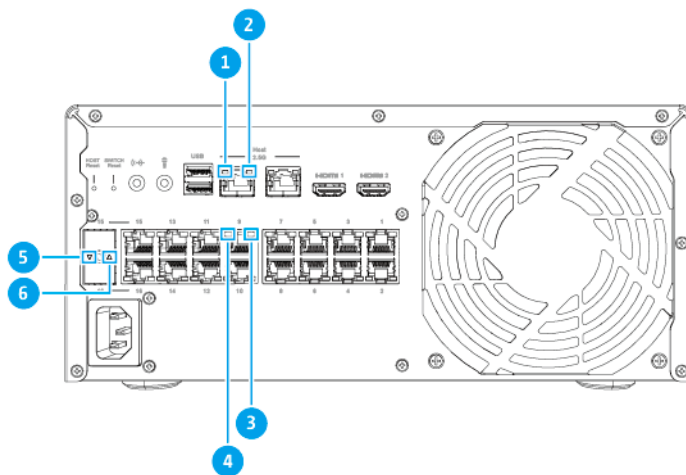


## Rear Panel



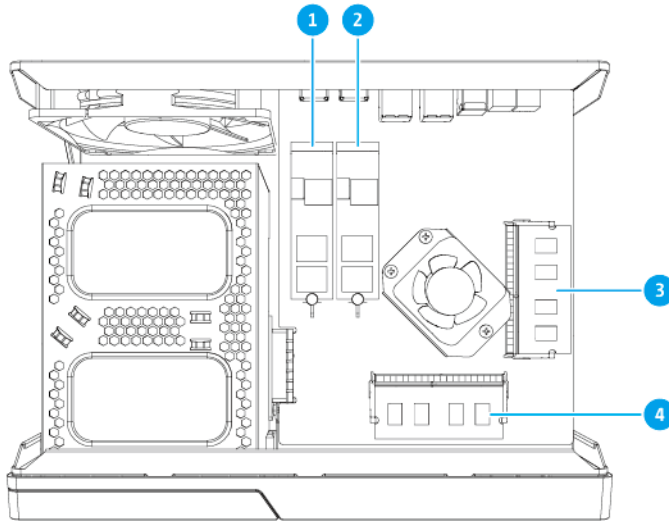
No.	Component	No.	Component
1	Host reset button	6	2.5 Gigabit Ethernet ports (RJ45)
2	Switch reset button	7	HDMI 2.0 ports
3	3.5 mm line-out jack	8	Gigabit 802.3at PoE+ RJ45 ports
4	3.5 mm dynamic microphone jack	9	Gigabit RJ45/SFP combo ports
5	USB 3.0 Type-A ports	10	Power input

## Rear Panel LEDs



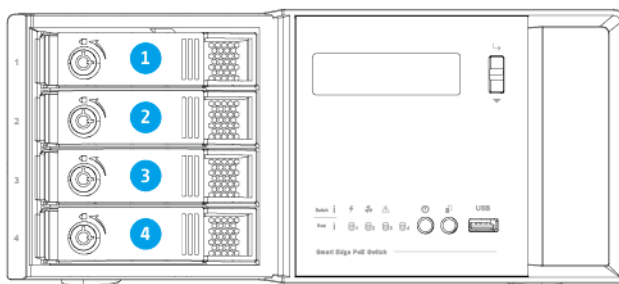
No.	Component	No.	Component
1	2.5 Gigabit Ethernet activity LED	4	Gigabit 802.3at PoE+ port activity LED
2	2.5 Gigabit Ethernet speed LED	5	Combo port activity LED
3	Gigabit 802.3at PoE+ port speed LED	6	Combo port speed LED

## 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 switch with the front panel removed.

## Safety Information

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

### General Instructions

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

### Power

- To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



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

### System Battery

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

### Moving Parts



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



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

## Installation Requirements

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

## Setting Up the Switch

1. Place your switch in an environment that meets the requirements.  
For details, see [Installation Requirements](#).
2. Install the drives.  
For details, see the following topics:
  - [Installing 3.5-inch Hard Drives or Solid-State Drives on 3.5-inch Trays](#)
  - [Installing 2.5-inch Hard Drives or 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 switch.  
For details, see [Front Panel](#).
5. Connect the switch to a computer or network.  
For details, see [Connecting the Switch to a Computer or Network](#).
6. Install QTS.  
For details, see [QTS Installation](#).
7. Log on to QTS.

8. Manage devices on the switch.  
For details, see [Switch Management Application Access](#).

## 3. Installation and Configuration

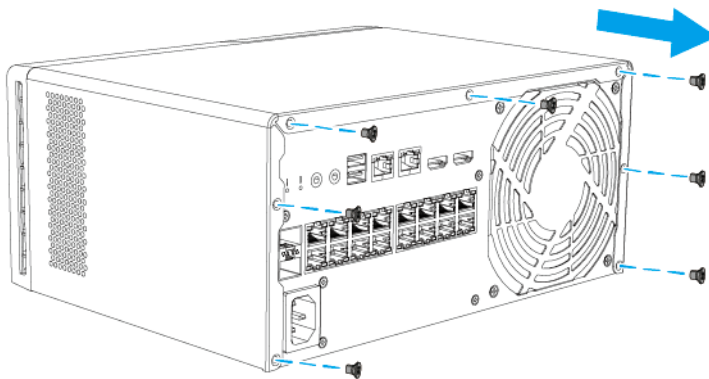
This chapter provides specific hardware and firmware installation and configuration steps.

### Hardware Installation

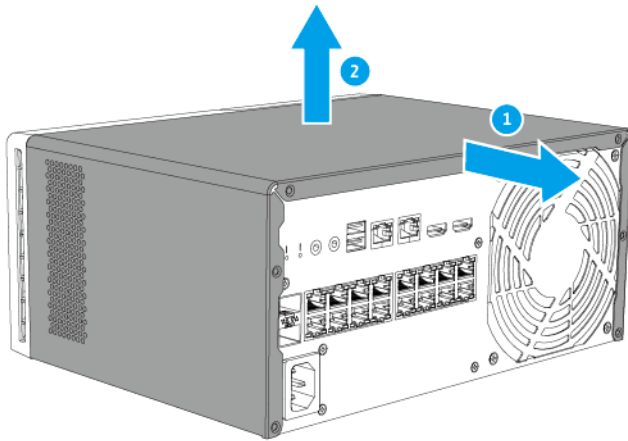
This section provides information on installing drives, memory modules, and expansion cards.

#### Removing the Case Cover

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.

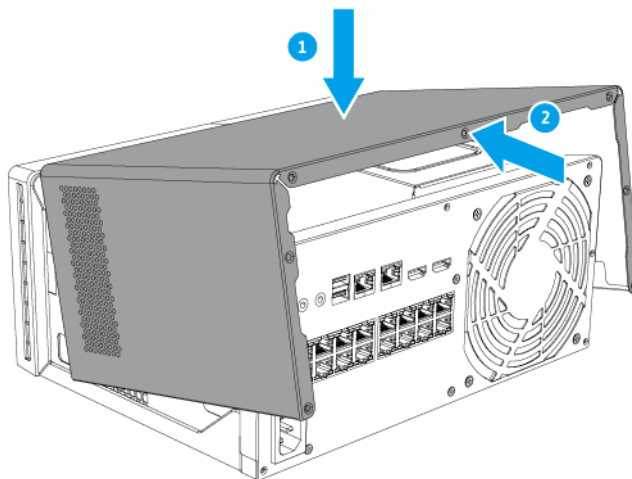


- b. Slide the cover back.
- c. Lift the cover off the device.

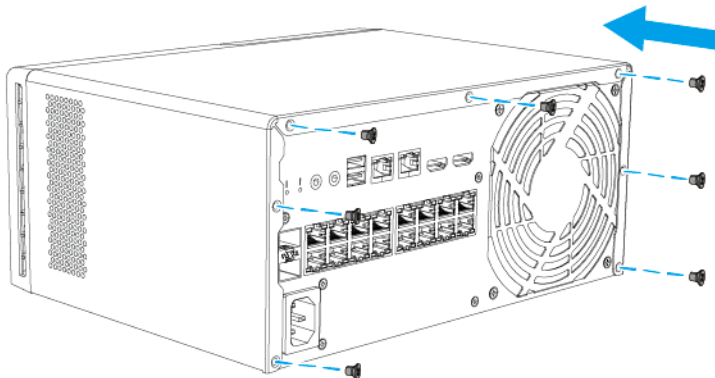


### Attaching the Case Cover

1. Place the cover on the device.
2. Slide the cover forward.



3. Attach the screws.



4. Connect all cables and external attachments.
5. Connect the power cord to the electrical outlet.
6. Power on the device.

## Drive Installation

The QGD-3014-16PT is compatible with 3.5-inch hard disk drives, 3.5-inch solid-state drives, 2.5-inch solid-state drives, and 2.5-inch hard disk 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.

•

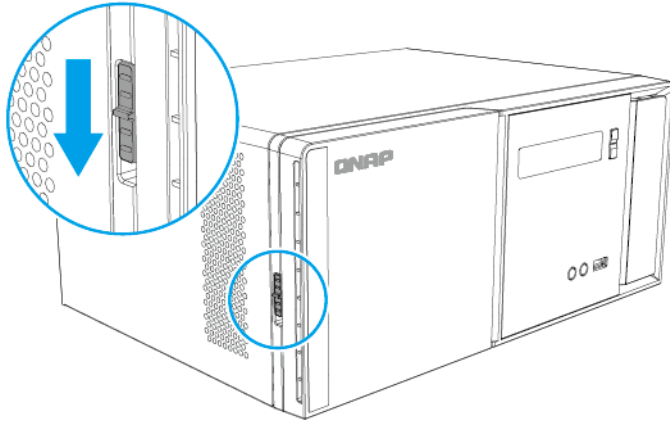


**Other moving components:** Keep your hands and other body parts away from other moving components.

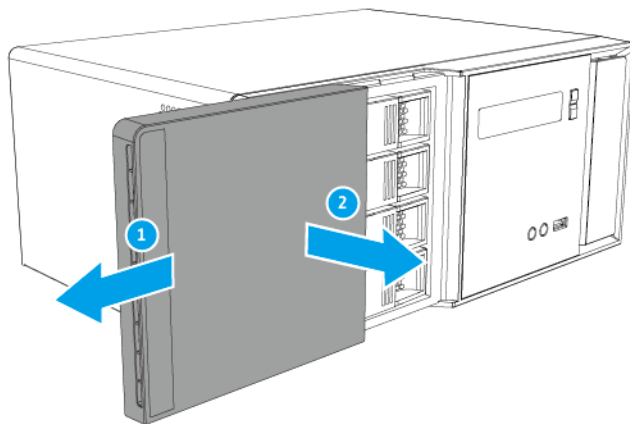
1. Power off the switch.
2. Remove the front cover.



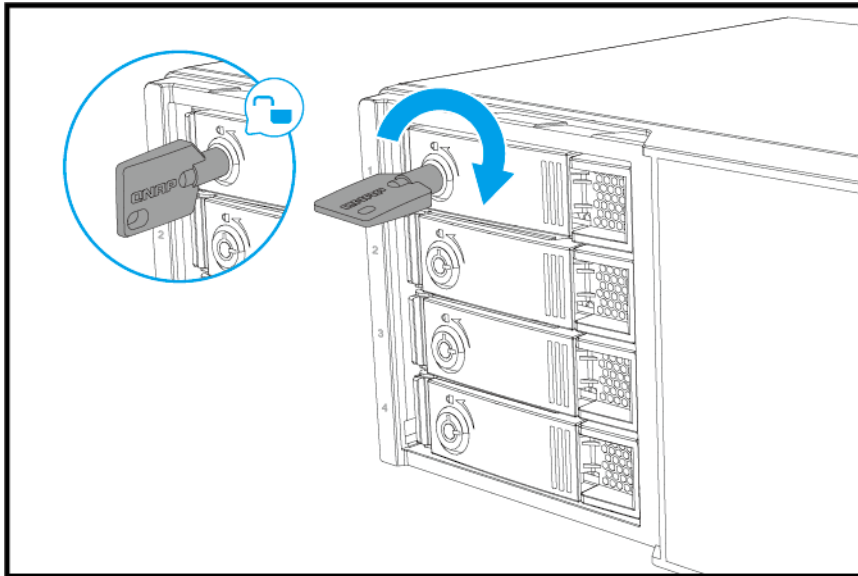
- a. Locate the locking mechanism on the left side of the switch.
- b. Slide the lock down to release the front cover.



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



3. Remove the drive tray.
  - a. Optional: Unlock the tray.

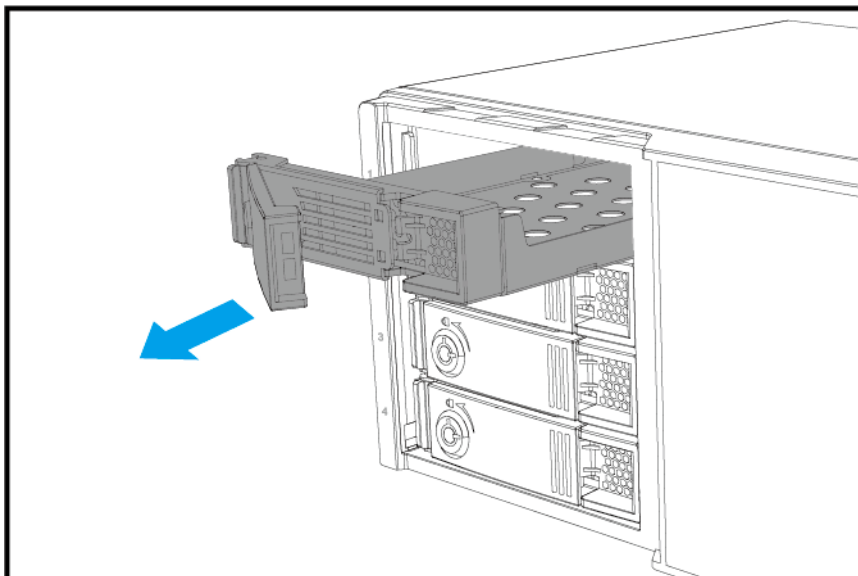
**Note**

The preinstalled drive trays come unlocked.

**Important**

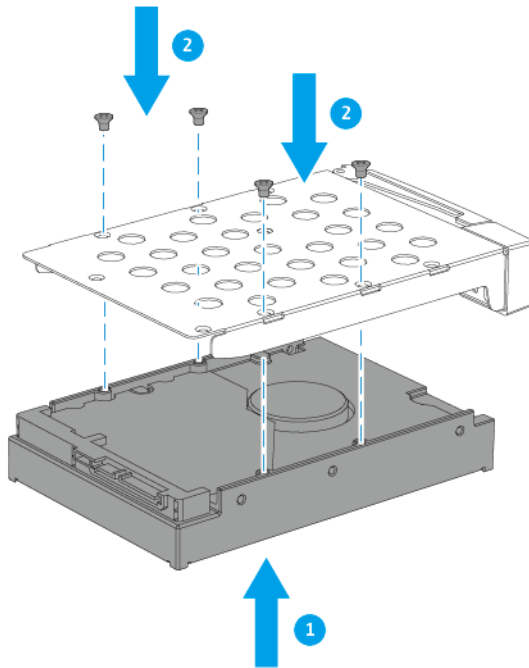
Ensure the drive tray keys are stored in a safe place.

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

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

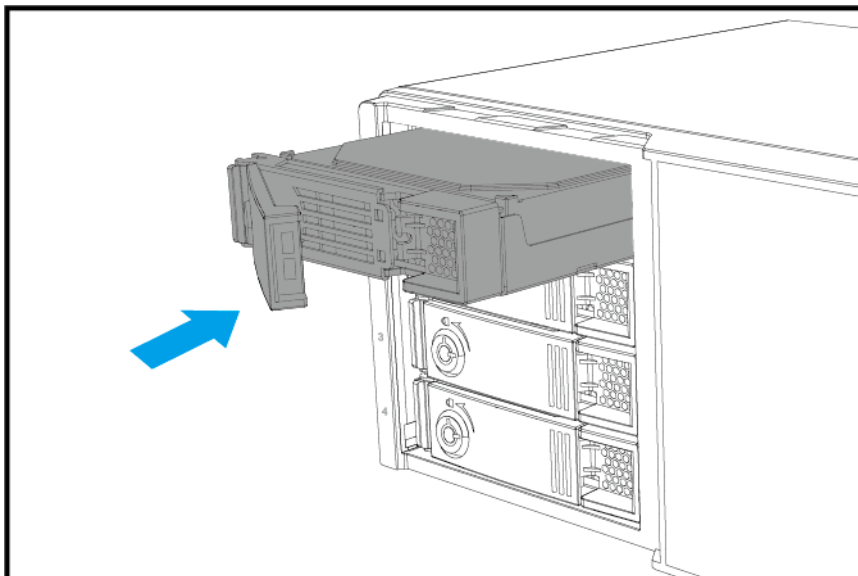
- a. Place the drive on the tray so that the holes on the sides of the drive are aligned with the holes on the sides of the tray.

- b. Optional: Attach the screws to further secure the drive.

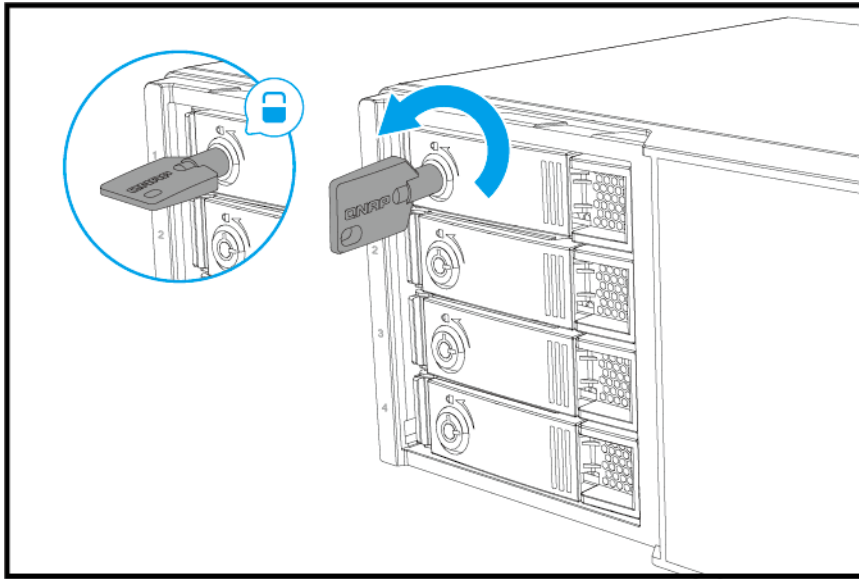


5. Load the tray into the bay.

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

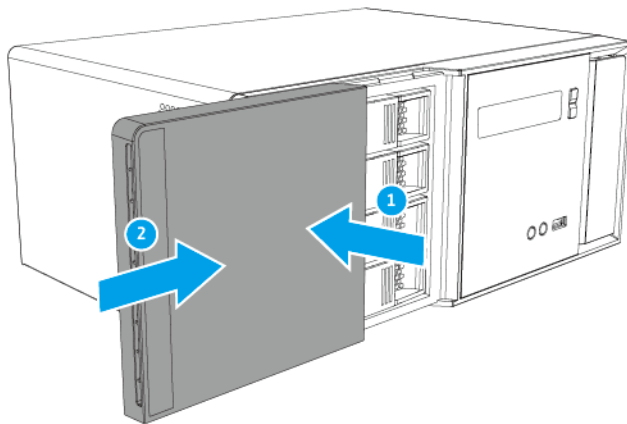


- c. Lock the tray.

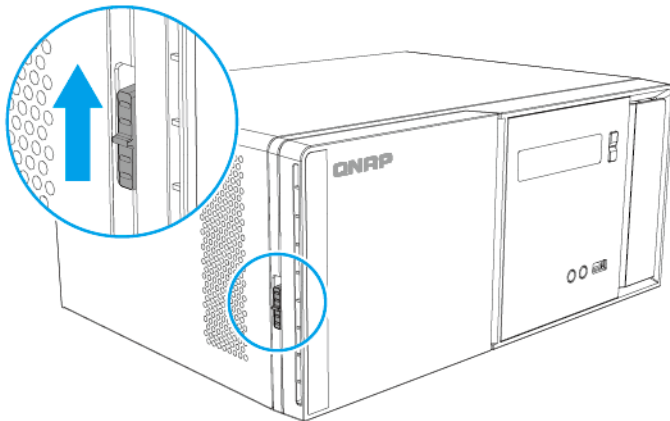


**6. Attach the front cover.**

- 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 switch.

## 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.

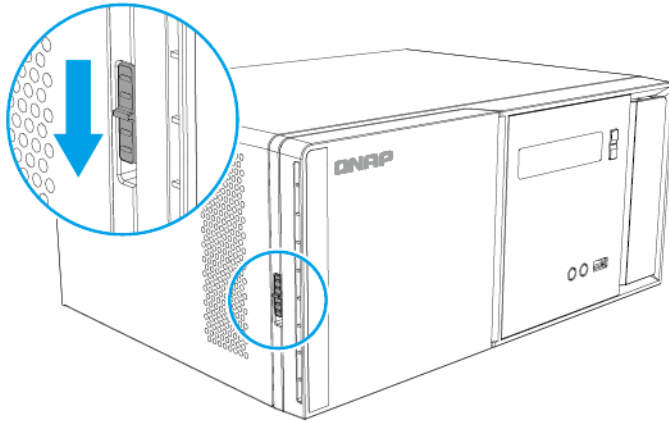
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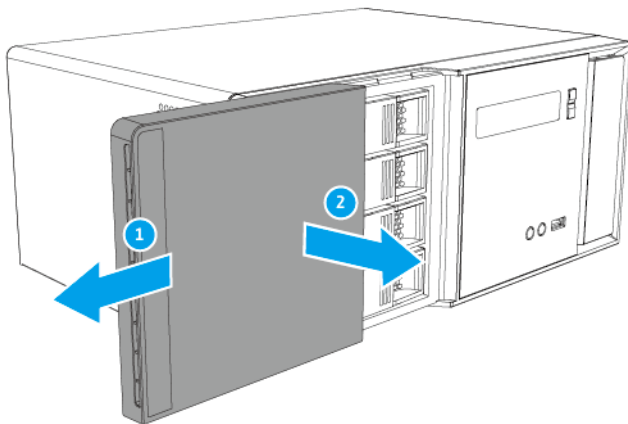
**Other moving components:** Keep your hands and other body parts away from other moving components.

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

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

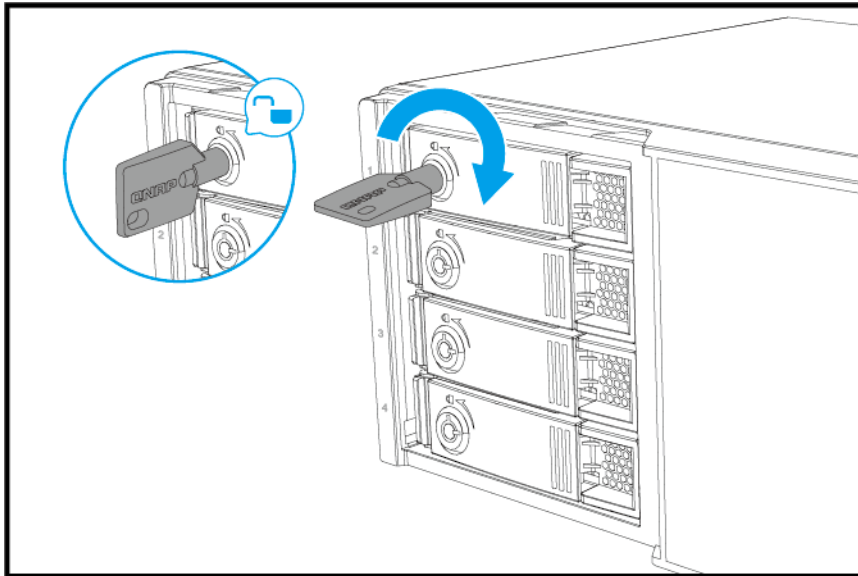


- c. Slide the front cover to the left and then pull.



- 3. Remove the drive tray.

- a. Optional: Unlock the tray.

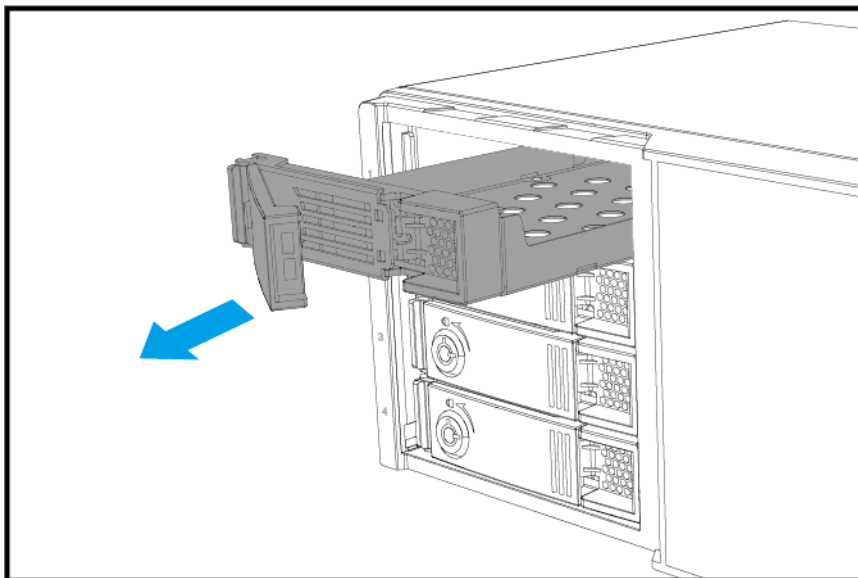
**Note**

The preinstalled drive trays come unlocked.

**Important**

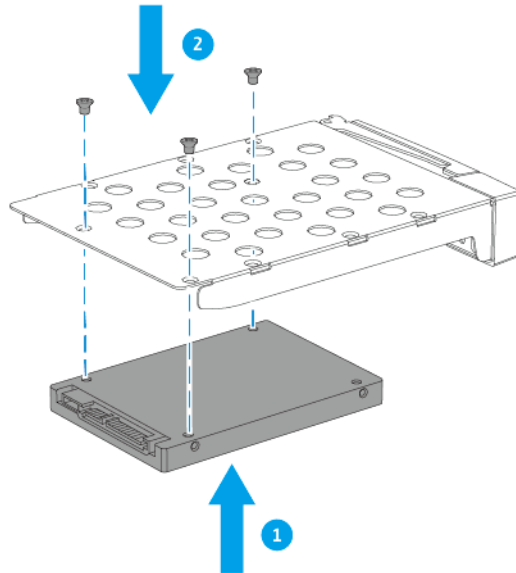
Ensure the drive tray keys are stored in a safe place.

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

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

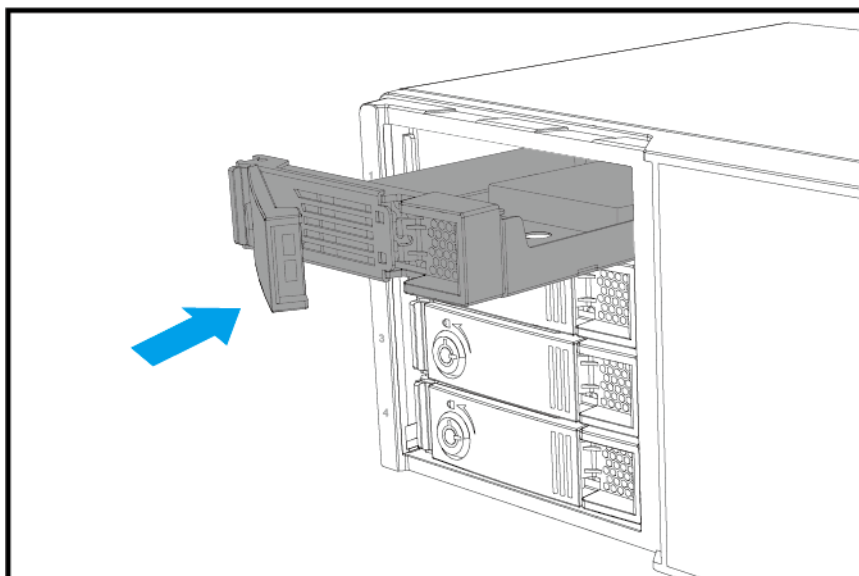
- a. Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.

b. Attach the screws.



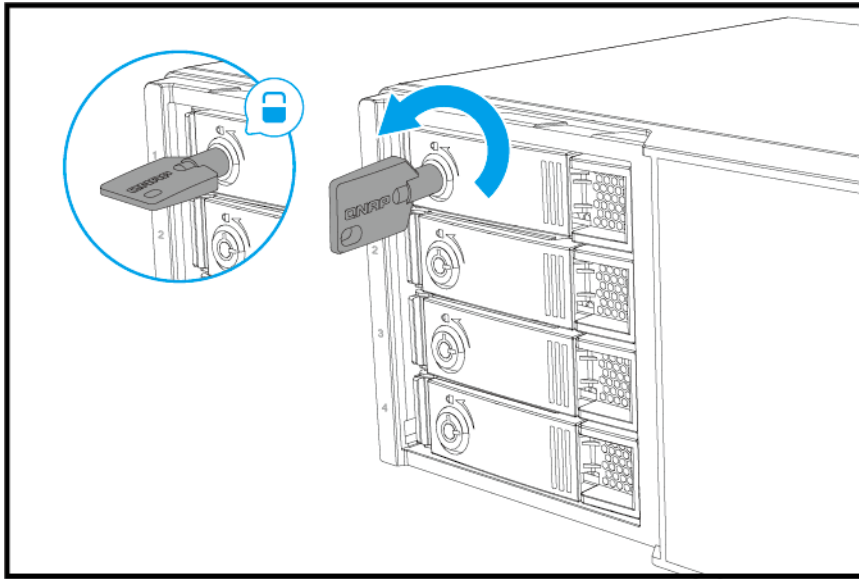
5. Load the tray into the bay.

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



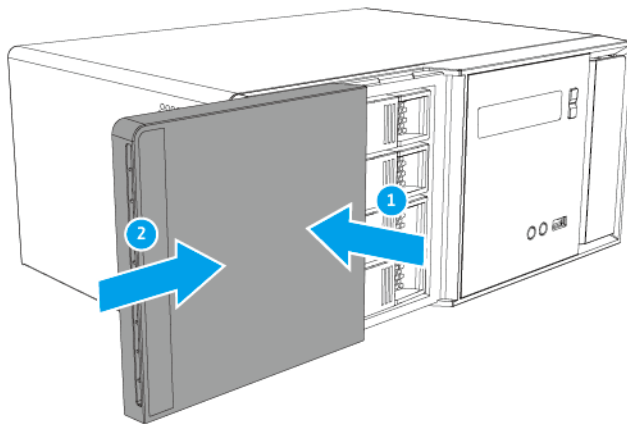
c. Lock the tray.



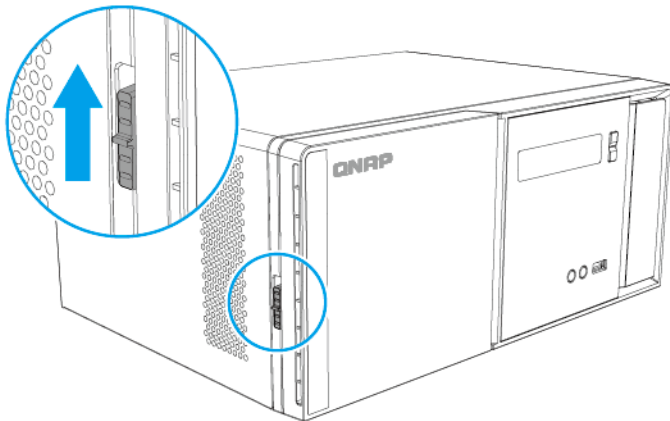


**6. Attach the front cover.**

- 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 switch.

### 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 <http://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

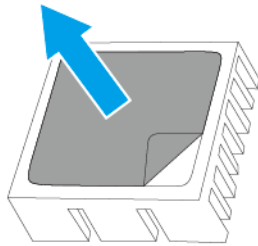
- QNAP recommends installing heatsinks on the M.2 SSD controllers to enhance cooling efficiency and to ensure consistent performance.

- Before installing non-QNAP heatsinks, ensure that they are of the appropriate size and shape.
1. Power off the device.
  2. Remove the case cover.  
For details, see [Removing the Case Cover](#).
  3. Install a heatsink on the M.2 SSD.
    - a. Locate the controller on the M.2 SSD.

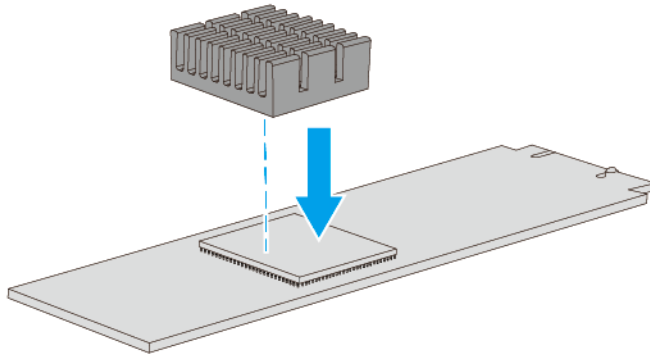
**Note**

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.

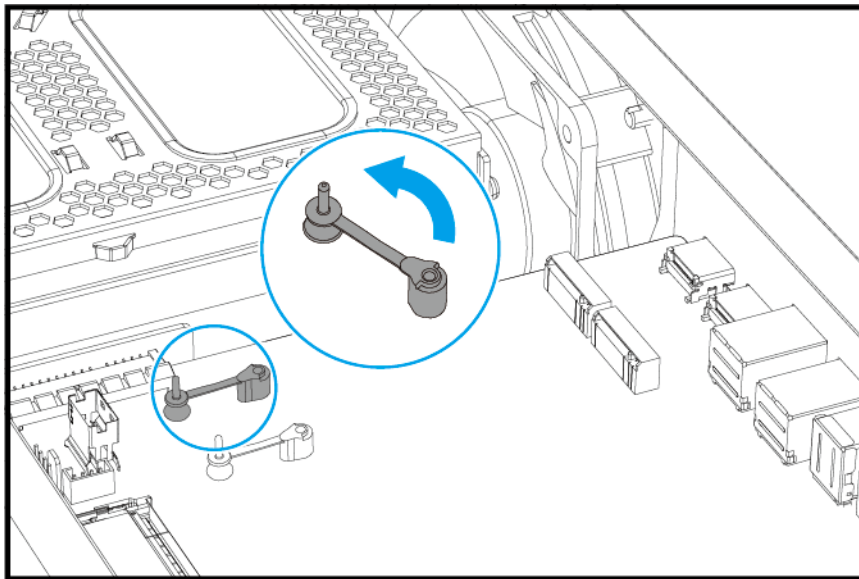


- c. Install the heatsink on the controller.



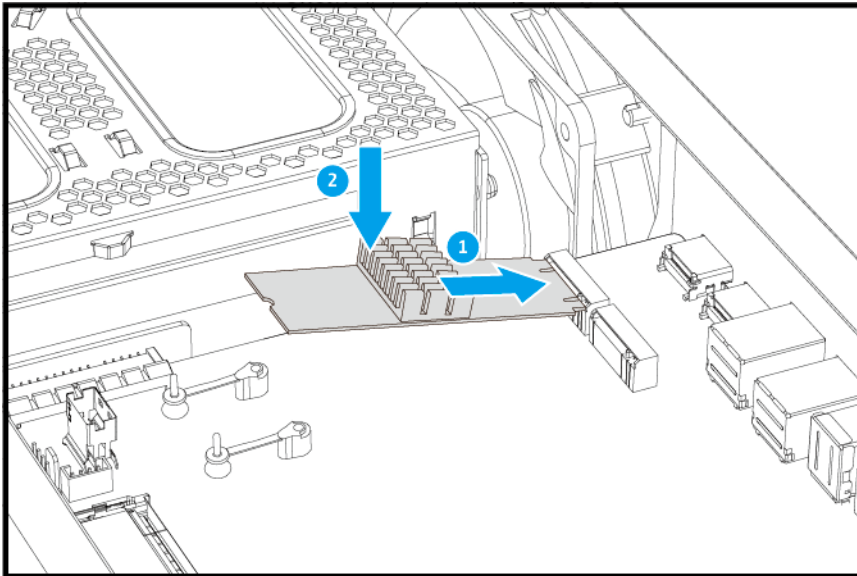
**4. Install the M.2 SSD.**

- a. Pull out the pushpin.**

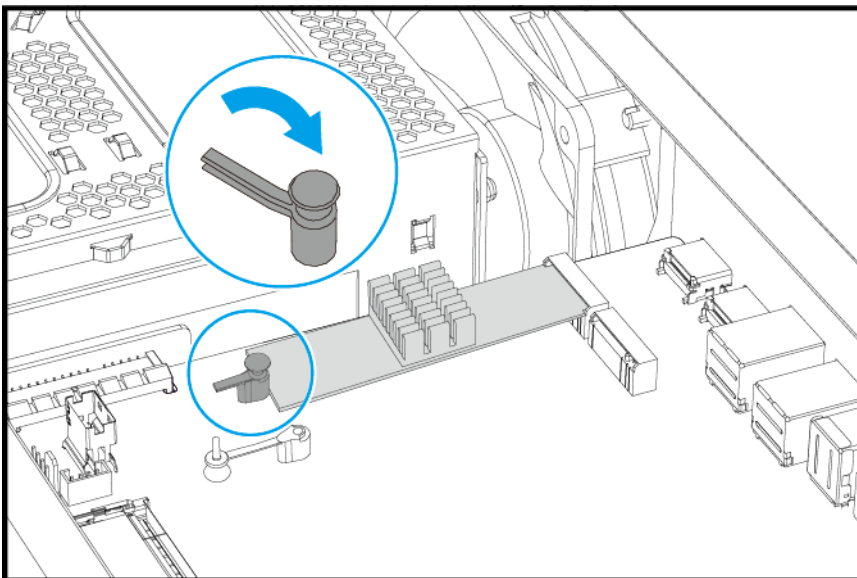


- b. Insert the M.2 SSD into the slot.**

- c. Push down the M.2 SSD.**



- d. Insert the pushpin to secure the drive.



5. Attach the case cover.  
For details, see [Attaching the Case Cover](#).
6. Power on the device.

## Replacing Memory Modules

The QGD-3014-16PT has two memory slots. You can increase the memory capacity of the switch 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.

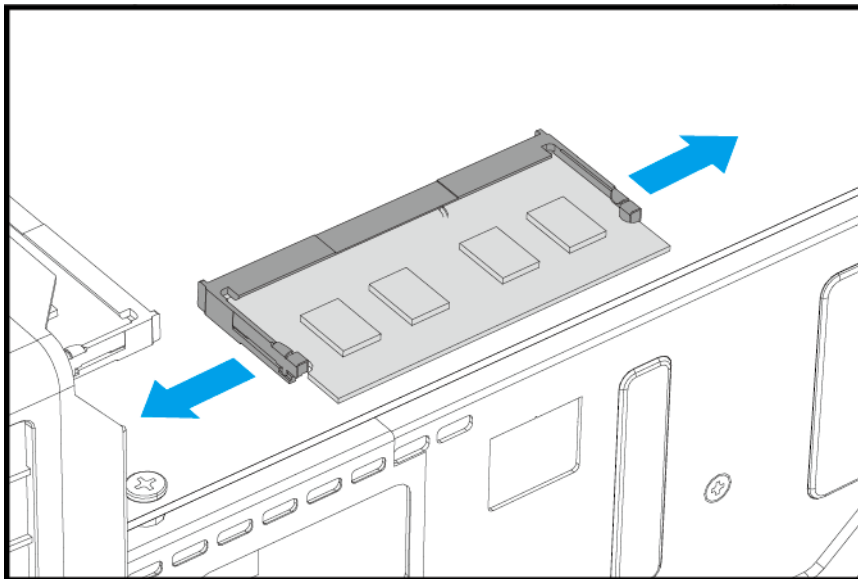


**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.



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

1. Power off the device.
2. Remove the case cover.  
For details, see [Removing the Case Cover](#).
3. Remove an existing module.
  - a. Push the retention clips outward simultaneously to release the module.



### Warning

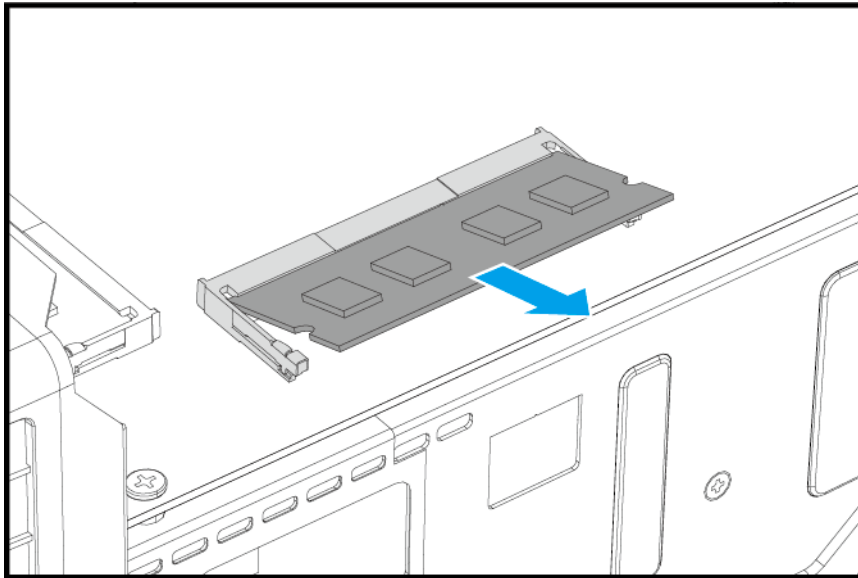
Attempting to remove a module that is not completely released may damage the module and the motherboard.

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

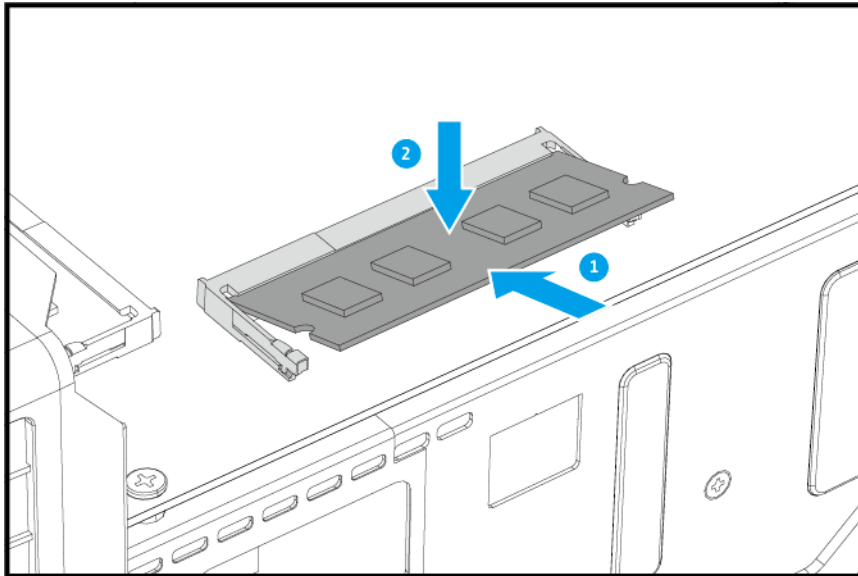
- d. Carefully slide the module out of the slot.

**Warning**

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



4. 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.



5. Attach the case cover.



#### Note

For details, see [Attaching the Case Cover](#).

6. Power on the device.
7. 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**.

## Connecting the Switch to a Computer or Network

The QGD-3014-16PT can be connected to a computer or local area network. For details, see the following topics:

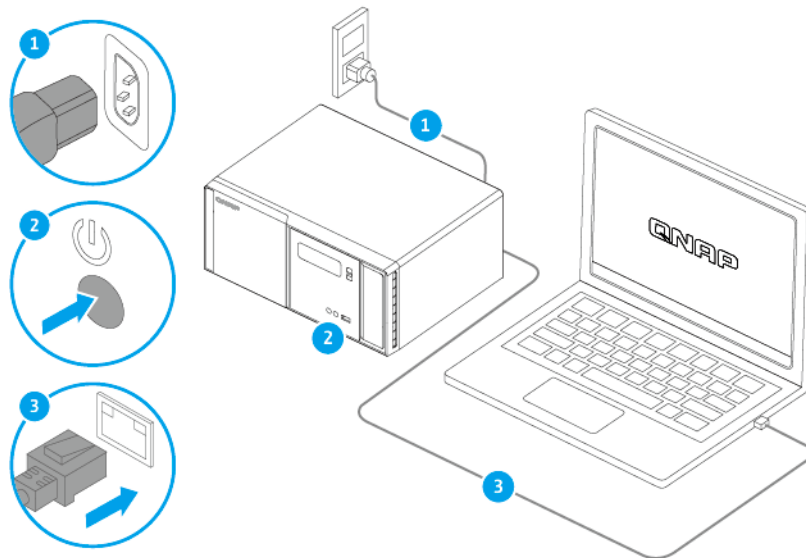
- [Connecting the Switch to a Computer](#)
- [Connecting the Switch to a Network](#)

### Connecting the Switch to a Computer

Connecting the QGD-3014-16PT to a QNAP NAS allows you to expand storage capacity and backup data to another NAS through Ethernet cable connections to a PoE port on the switch. However, you must connect the QGD-3014-16PT to a computer to configure switch settings.

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





3. Verify that the switch 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 switch on the list.

**Connecting the Switch to a Network**

The QGD-3014-16PT can connect to the local area network through the host port or a PoE port.

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

Type	Method
Host Port	Select the switch IP address obtained from <i>Adapter 1</i> on the LCD panel.
PoE Port	Select switch IP addresses obtained from <i>Adapter 2</i> or <i>Adapter 3</i> 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 switch in the list and then double-click the name or IP address. The QTS login screen appears.
6. Enter your QTS login information.

## 7. Click **Log In**.

### Connecting USB Expansion Units

The device supports USB expansion units. For details, please see table below.

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

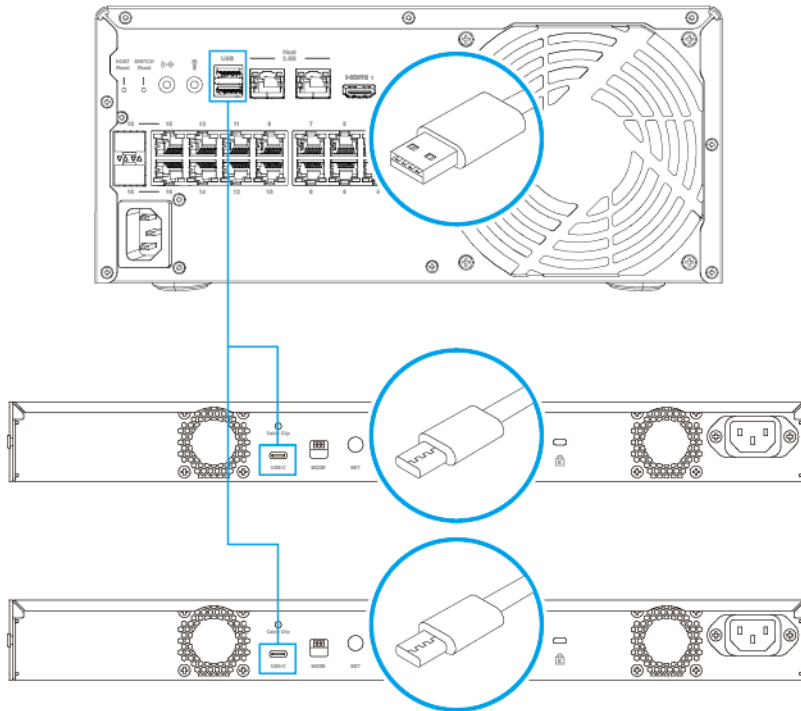
For details, go to <https://shop.qnap.com/>.

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
TR-002	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	USB 3.2 Gen 2 Type-A to Type-C cable
TR-004		
TR-004U	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 1 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 1 Type-A to Type-C cable</li> <li>• RAIL-B02</li> </ul>
TL-D800C	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	USB 3.2 Gen 2 Type-A to Type-C cable
TL-R1200C-RP	<ul style="list-style-type: none"> <li>• Uses a USB 3.2 Gen 2 Type-C interface</li> <li>• Supports SATA drives</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 2 Type-A to Type-C cable</li> <li>• RAIL-B02</li> </ul>

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.

1. Connect the expansion unit to the switch.
  - 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 1 Type-A port on the switch.



2. Power on the expansion units.
3. Verify that the expansion units are recognized by the switch.
  - a. Log on to QTS as administrator.
  - b. Go to **Main Menu > Storage & Snapshots > Overview > System** .
  - c. Verify that the expansion units are listed.

## QTS Installation

Method	Description	Requirements
Qfinder Pro installation (Recommended)	<p>If the switch is connected to your local area network, you can do the following:</p> <ul style="list-style-type: none"> <li>• Locate the switch using Qfinder Pro.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul> <p>For details, see <a href="#">Installing QTS Using Qfinder Pro</a>.</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Network cable</li> <li>• Qfinder Pro installer</li> </ul>

Method	Description	Requirements
Cloud installation	<p>If the switch is connected to the internet, you can do the following:</p> <ul style="list-style-type: none"> <li>• Scan the QR code on the switch.</li> <li>• Specify the Cloud Key.</li> <li>• Log into your myQNAPcloud account.</li> <li>• Use myQNAPcloud Link to remotely access your switch.</li> <li>• Complete the steps in the Smart Installation Guide wizard.</li> </ul> <p>For details, see <a href="#">Installing QTS Using the Cloud Key</a>.</p>	<ul style="list-style-type: none"> <li>• Computer or mobile device</li> <li>• myQNAPcloud account</li> <li>• Cloud Key</li> </ul>

## Installing QTS Using Qfinder Pro



### Warning

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

1. Power on the switch.
2. Connect the switch to your local area network.



### Tip

You can connect to the local area network through the host port or through any PoE port.

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 switch in the list and then double-click the name or IP address. The **Smart Installation Guide** opens in the default web browser.
5. Click **Start Smart Installation Guide**.
6. Specify the following information.
  - **NAS name:** Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
  - **Password:** Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.
7. Click **Next**.
8. Specify the time zone, date, and time.



### Tip

QNAP recommends connecting to an NTP server to ensure that the switch 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 switch.
13. Click **Next**.
14. Review the settings.
15. Click **Apply**.  
A confirmation message appears.

**Warning**

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

16. Click **Confirm**.  
QTS is installed.

## Installing QTS Using the Cloud Key

**Warning**

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

1. Power on the switch.
2. Connect the switch 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 switch using a mobile device.

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

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

**Note**

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

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 switch.

**Note**

- The myQNAPcloud device name is used when remotely accessing the switch.

- For security purposes, the myQNAPcloud Link remote connection service will be disabled on your switch 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**.

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



#### Tip

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

12. Click **Next**.

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

14. Click **Next**.

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

16. Click **Next**.

17. Review the settings.

18. Click **Apply**.

A confirmation message appears.



#### Warning

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

19. Click **Confirm**.

QTS is installed.

## Switch Management Application Access

You can manage the QGD-3014-16PT switch using the following applications:

Application	Description
QuNetSwitch	Switch management application for QTS. QuNetSwitch comes preinstalled in QTS.
QSS	Switch management system for QNAP switches. QSS comes preinstalled on the switch.

For details on how to access these applications, see the following topics:

- [Accessing QSS with Qfinder Pro](#)
- [Accessing QuNetSwitch in QTS](#)

## 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 Switch 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.

## Accessing QuNetSwitch in QTS



### Note

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

1. Power on the device.
2. Log in to QTS.

**Note**

For details, see [Connecting the Switch 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.




## 4. Basic Operations

This chapter describes basic switch operations.

### Buttons

#### Power Button


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

#### 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.

#### QTS Reset Button

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

Operation	User Action	Result
Advanced system reset	Press and hold the button for 15 seconds.	<p>The default QTS settings are restored.</p> <p> <b>Tip</b> To retrieve old data after an advanced system reset, recreate the previous folder structure on the switch.</p>

## 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 switch 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 switch:

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

- Secondary DNS
1. Press **Enter** or **Select**.  
The panel displays the switch 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 **Enter** to configure the settings.

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

Repeat this step if necessary.

## Viewing Drive Information

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

1. Press **Enter** or **Select**.  
The panel displays the switch 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 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 switch 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 Switch

1. Press **Enter** or **Select**.  
The panel displays the switch 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 switch powers off.

## Restarting the Switch

1. Press **Enter** or **Select**.  
The panel displays the switch 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 switch restarts.

## Changing the LCD Password

Specifying a password for the LCD panel prevents unauthorized access.

1. Press **Enter** or **Select**.  
The panel displays the switch 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.

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

#### 7. Press **Enter**.

The switch 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 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	<ul style="list-style-type: none"> <li>The switch is starting up.</li> <li>When the reset button is pressed for 3 seconds, the switch resets configuration.</li> <li>When the reset button is pressed for 10 seconds, the switch resets configuration and reboots.</li> <li>The operating system was updated.</li> <li>The switch is starting USB One-Touch Copy.</li> </ul>
	2	The USB device has been removed (USB One Touch copy button).
	3	Cannot detect installed disk.

Duration	Frequency	Description
Long beep (1.5 seconds)	3 (every 5 minutes)	<ul style="list-style-type: none"> <li>• A power error occurred.</li> <li>• The system fan is not functioning.</li> <li>• The fan module has been removed.</li> <li>• The switch data cannot be copied to the external storage device connected to the front USB port.</li> </ul>
	2	<ul style="list-style-type: none"> <li>• The disk volume is about to reach its full capacity.</li> <li>• The disk volume has reached its full capacity.</li> <li>• The USB device is being removed (USB one-touch copy button).</li> <li>• A volume status error occurred.</li> <li>• A drive is plugged in or out.</li> </ul>
	1	<ul style="list-style-type: none"> <li>• The switch was powered off by force shutdown (hardware shutdown).</li> <li>• The switch was powered on successfully and is ready.</li> </ul>
Long beep (5 seconds)	1	QTS is restarting.

## 5. Troubleshooting

This chapter describes basic troubleshooting information.

### Hot-Swapping Failed Drives

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 switch 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*.

### Recovering Unintentionally Removed Healthy Drives

The switch 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, RAID 50, or RAID 60 volume from degraded mode.

Disk Volume	RAID Recovery Support	Number of Disks	Maximum Number of Removed Drives
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



Disk Volume	RAID Recovery Support	Number of Disks	Maximum Number of Removed Drives
RAID 10	No	≥ 4 (Must be an even number)	One or two member drives in two different pairs fail.
RAID 50	Yes	≥ 6	One disk per subgroup fails.
RAID 60	Yes	≥ 8	Two disks per subgroup fail.

## Forcing Qfinder Pro and myQNAPcloud to Locate the Switch

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

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

## Support and Other Resources

QNAP provides the following resources:

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

## 6. Glossary

### **myQNAPcloud**

Provides various remote access services such as DDNS and myQNAPcloud Link

### **myQNAPcloud Link**

Enables you to access the NAS 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

### **QSS**

QNAP switch management application

### **QTS**

QNAP NAS operating system

### **QuNetSwitch**

QNAP switch management app that runs on the QTS operating system

## 7. Notices

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

### Limited Warranty

QNAP offers limited warranty service on our products. Your QNAP-branded hardware product is warranted against defects in materials and workmanship for a period of one (1) year or more from the date printed on the invoice. ("Warranty Period"). Please review your statutory rights at [www.qnap.com/warranty](http://www.qnap.com/warranty), which may be amended from time to time by QNAP in its discretion.

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