

External RAID Enclosure

TR-002

TR-004

User Guide

Contents

1. Preface	
About This Guide.....	3
Audience.....	3
Document Conventions.....	3
2. Product Overview	
About QNAP External RAID Enclosures.....	4
Hardware Specifications.....	4
Package Contents.....	5
Components.....	6
Front Panel.....	6
Rear Panel.....	7
Drive Numbering.....	8
Safety Information.....	9
Installation Requirements.....	10
Setting Up the RAID Enclosure.....	10
3. Hardware Installation	
Drive Installation.....	12
Installing 3.5-inch Drives on 3.5-inch Trays.....	12
Installing 2.5-inch Drives on 3.5-inch Trays.....	15
Connecting the RAID Enclosure to a NAS.....	19
Connecting the RAID Enclosure to a Computer.....	20
Attaching the USB Cable Clip.....	21
Removing a USB Cable from the USB Cable Clip.....	23
4. RAID Configuration	
Supported RAID Types.....	25
Storage Modes.....	27
Storage Modes and Platform Support.....	27
Mode Switch.....	27
Configuring RAID Settings Using the Mode Switch.....	28
5. Basic Operations	
Eject Button.....	30
USB One Touch Copy Button.....	30
Set Button.....	30
LEDs.....	30
Audio Alert.....	31
Standby Mode.....	31
6. Troubleshooting	
Forcing Storage & Snapshots or QNAP External RAID Manager to Recognize the RAID Enclosure.....	32
Hot-swapping Failed Drives.....	32
Support and Other Resources.....	33
7. Glossary	
QTS.....	34
QNAP External RAID Manager.....	34
Storage & Snapshots.....	34

8. Notices

Limited Warranty.....	35
Disclaimer.....	35
GNU Public License.....	35
FCC Notice.....	43
CE Notice.....	43
SJ/T 11364-2006.....	44
VCCI Notice.....	44
BSMI Notice.....	45

1. Preface





About This Guide

This guide provides information on the QNAP TR-002 and TR-004 external RAID enclosures 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 TR-002 and TR-004 external RAID enclosures.

About QNAP External RAID Enclosures

QNAP external RAID enclosures are designed to increase the capacity and utility of your NAS or computer. They provide RAID, JBOD, and port multiplier support for added compatibility and security across multiple platforms. The TR-002 and TR-004 feature a mode switch for easy and accessible RAID configuration, and their USB Type-C ports ensure quick and efficient data transfer.

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](#).

Component	TR-002	TR-004
Ordering Information		
Ordering P/N	TR-002	TR-004
Storage		
Drive bays	2 x 3.5-inch SATA 6 Gbps	4 x 3.5-inch SATA 3 Gbps
	Note The TR-004 is compatible with SATA 6 Gbps drives.	
Drive compatibility	<ul style="list-style-type: none"> • 3.5-inch SATA hard disk drives • 2.5-inch SATA hard disk drives • 2.5-inch SATA solid-state drives 	
Drive tray type	Key lock	
Hot-swapping	Yes	
External I/O Ports & Expansion Slots		
USB ports	1 x USB 3.1 Gen 2 (10 Gbps) Type-C	1 x USB 3.0 Type-C
	Important This port is only for connecting the RAID enclosure to a NAS or computer.	
Interface		
Buttons	<ul style="list-style-type: none"> • Eject • Set • USB One Touch Copy 	

Component	TR-002	TR-004
Switches	<ul style="list-style-type: none"> Power <div style="display: flex; align-items: center;"> <p>Important QNAP recommends waiting at least two seconds after powering off the RAID enclosure before powering it on again.</p> </div> <ul style="list-style-type: none"> Mode 	
Dimensions		
Form factor	Tower	
Dimensions (H x W x D)	169 x 102 x 219 mm (6.65 x 4.02 x 8.62 in)	169 x 160.2 x 219 mm (6.65 x 6.31 x 8.62 in)
Net weight	1.37 kg (3.02 lbs)	1.85 kg (4.08 lbs)
Others		
Power supply unit	36W, 100-240V AC, 50/60 Hz	65W, 100-240V AC, 50/60 Hz
	<div style="display: flex; align-items: center;"> <p>Warning To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.</p> </div>	
Sound level	17.8 db(A)	18.1 db(A)
	<div style="display: flex; align-items: center;"> <p>Note The sound level was tested at a bystander position, which is within one meter of the RAID enclosure. The test device operated at low speed with the maximum number of drives installed.</p> </div>	
Fans	System: 1 x 7 cm, 12V DC smart fan	System: 1 x 12 cm, 12V DC smart fan
	<div style="display: flex; align-items: center;"> <p>Warning To avoid potential injury or damage to the components, do not touch the fans while the device is connected to a power source.</p> </div>	
Operating temperature	0°C to 40°C (32°F to 104°F)	
Relative humidity	<ul style="list-style-type: none"> Non-condensing relative humidity: 5% to 95% Wet-bulb temperature: 27°C (80.6°F) 	
Security slot	Kensington security slot	



Tip

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

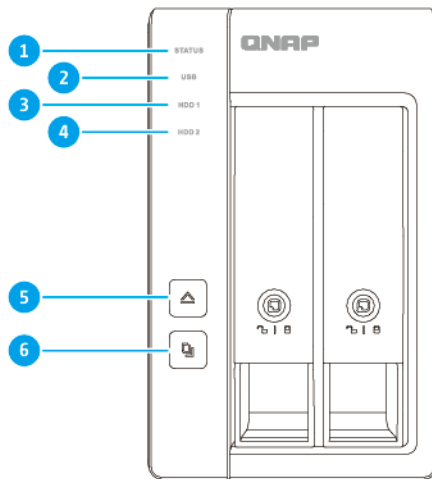
Package Contents

Item	Quantity
External RAID enclosure	1
AC power adapter	1
Power cord	1
USB Type-C to Type-A connector cable	1

Item	Quantity
Drive tray keys	2
USB cable clip	1
Screws for 2.5-inch drives	<ul style="list-style-type: none"> • TR-002: 6 • TR-004: 12
Screws for 3.5-inch drives	<ul style="list-style-type: none"> • TR-002: 8 • TR-004: 16
Quick Installation Guide (QIG)	1

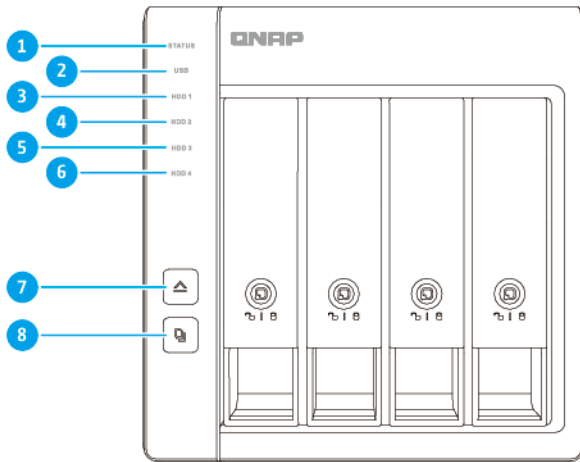
Components

Front Panel



TR-002

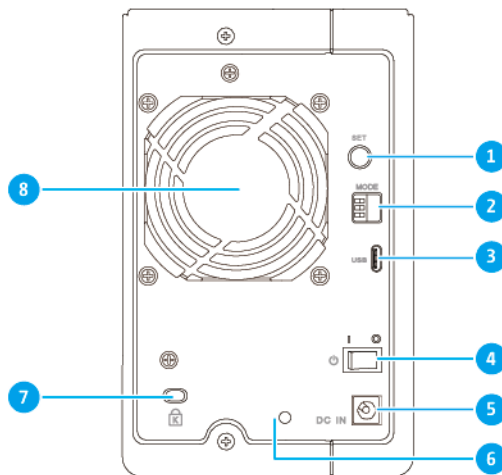
No.	Component	No.	Component
1	Status LED	4	Drive 2 LED
2	USB LED	5	Eject button
3	Drive 1 LED	6	USB One Touch Copy button



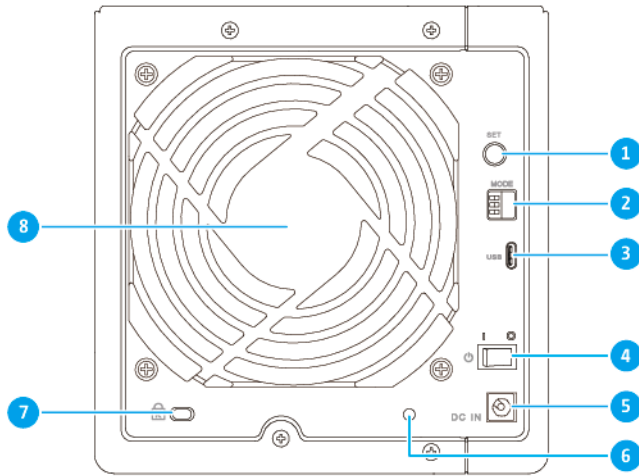
TR-004

No.	Component	No.	Component
1	Status LED	5	Drive 3 LED
2	USB LED	6	Drive 4 LED
3	Drive 1 LED	7	Eject button
4	Drive 2 LED	8	USB One Touch Copy button

Rear Panel



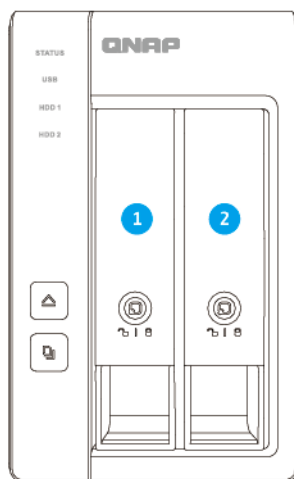
TR-002



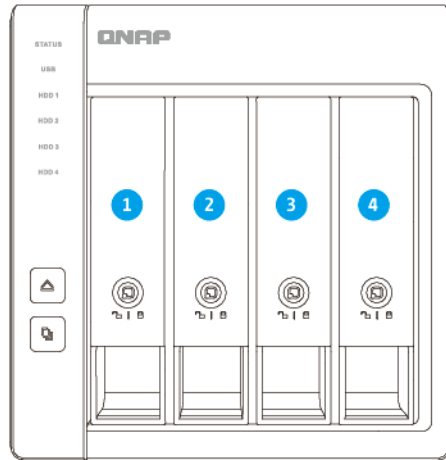
TR-004

No.	Component	No.	Component
1	Set button	5	Power input
2	Mode switch	6	USB cable clip slot
3	<ul style="list-style-type: none"> • TR-002: USB 3.1 Gen 2 Type-C port • TR-004: USB 3.0 Type-C port 	7	Kensington security slot
4	Power switch	8	System fan

Drive Numbering



TR-002



TR-004

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"> • 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
Hardware and peripherals	<ul style="list-style-type: none"> • NAS or computer • Storage drives For details on compatible drives, go to https://www.qnap.com/compatibility/. • USB connector cable
Tools	<ul style="list-style-type: none"> • Phillips #1 or #2 screwdriver • Anti-static wrist strap

Setting Up the RAID Enclosure

1. Place the RAID enclosure 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 Drives on 3.5-inch Trays](#)
 - [Installing 2.5-inch Drives on 3.5-inch Trays](#)
3. Connect the power cord.
4. Connect the RAID enclosure to your NAS or computer.
For details, see the following topics:

- [Connecting the RAID Enclosure to a NAS](#)
 - [Connecting the RAID Enclosure to a Computer](#)
5. Power on the RAID enclosure.
 6. Optional: Configure the RAID settings.
For details, see [RAID Configuration](#).

3. Hardware Installation

This section provides information on installing drives, connecting the RAID enclosure to a NAS or computer, and attaching the USB cable clip.

Drive Installation

QNAP external RAID enclosures are compatible with 3.5-inch and 2.5-inch hard drives and 2.5-inch solid-state drives.

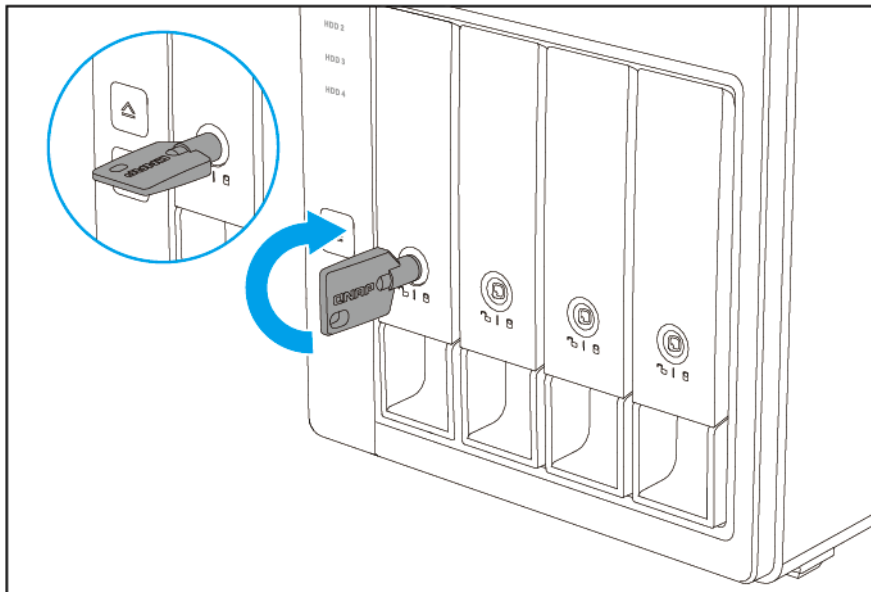
Installing 3.5-inch Drives on 3.5-inch Trays



Warning

- Installing a drive deletes all data on the drive, unless the RAID enclosure is in Individual or Software Control mode.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Power off the RAID enclosure.
2. Remove a drive tray.
 - a. Optional: Unlock the tray.



Note

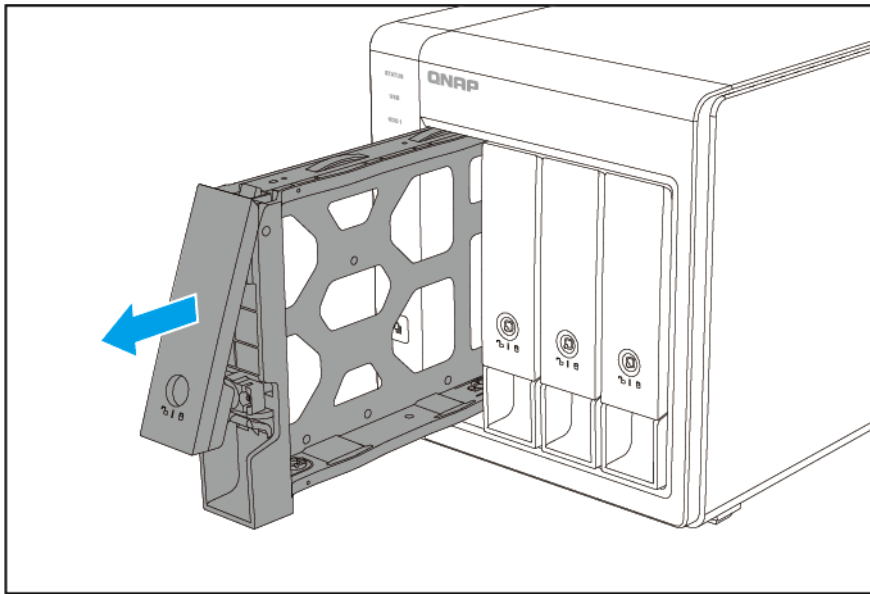
The preinstalled drive trays come unlocked.



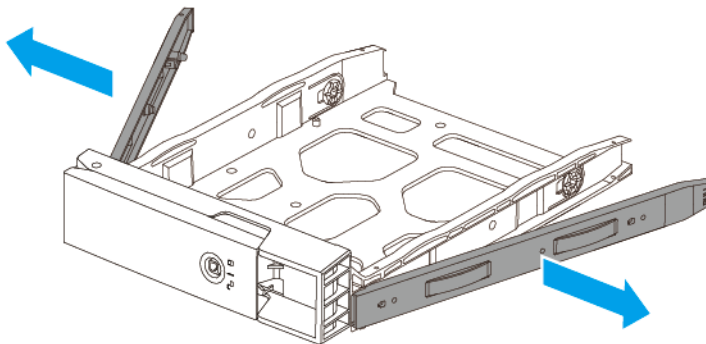
Important

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

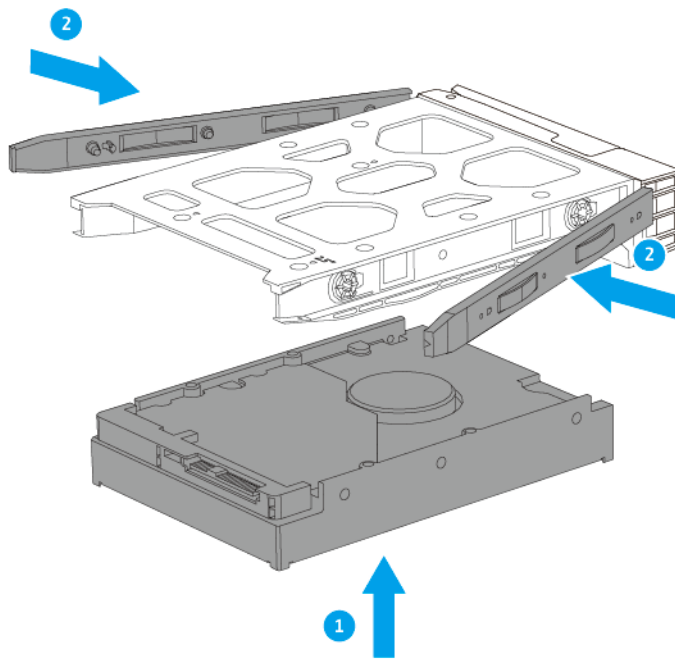
- b. Pull the handle to release the tray.
- c. Pull the tray out.



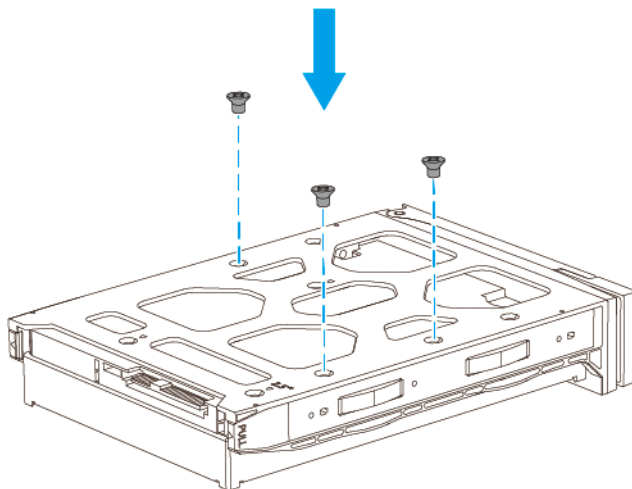
3. Install a drive on the tray.
 - a. Remove the fastening panels from the sides of the tray.



- b. 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.
 - c. Attach the fastening panels.



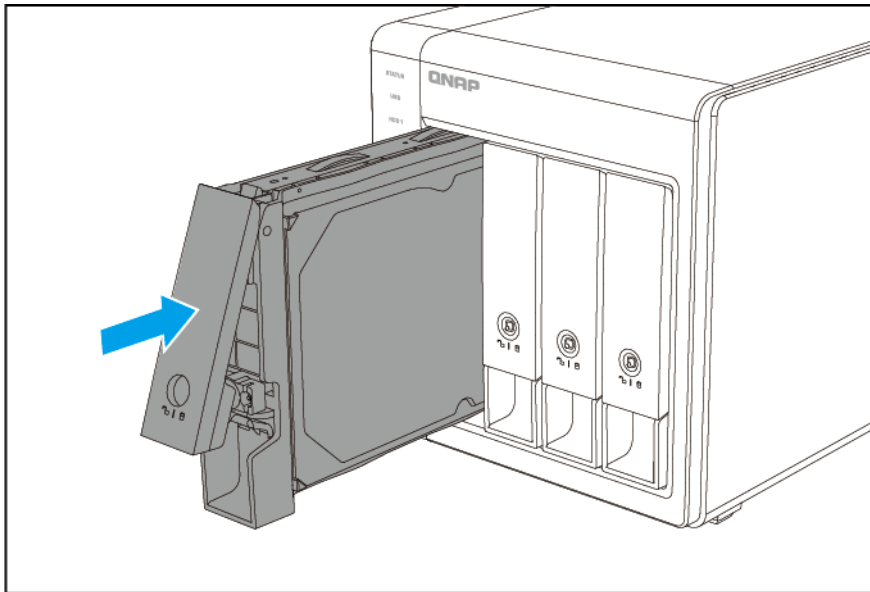
d. Optional: Attach the screws to further secure the drive.



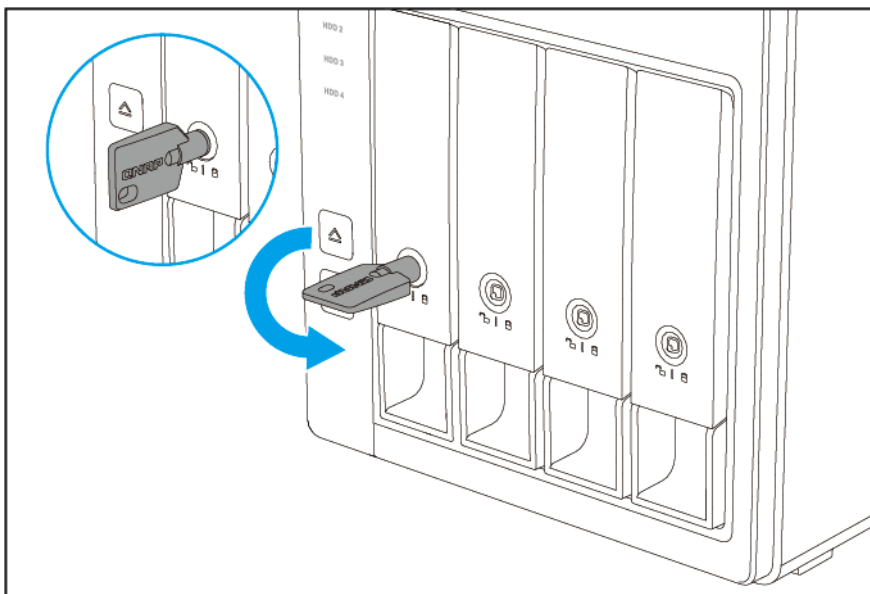
Important

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

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



c. Optional: Lock the tray.



5. Power on the RAID enclosure.



Important

The RAID enclosure may take up to 30 seconds to detect the installation of the new drive.

Installing 2.5-inch Drives on 3.5-inch Trays

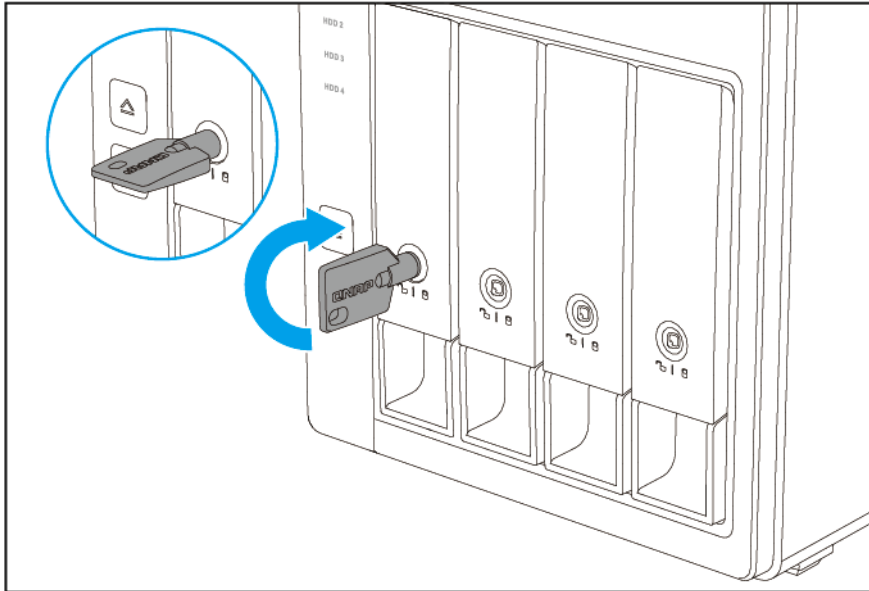


Warning

- Installing a drive deletes all data on the drive, unless the RAID enclosure is in Individual or Software Control mode.

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

1. Power off the RAID enclosure.
2. Remove a drive tray.
 - a. Optional: Unlock the tray.

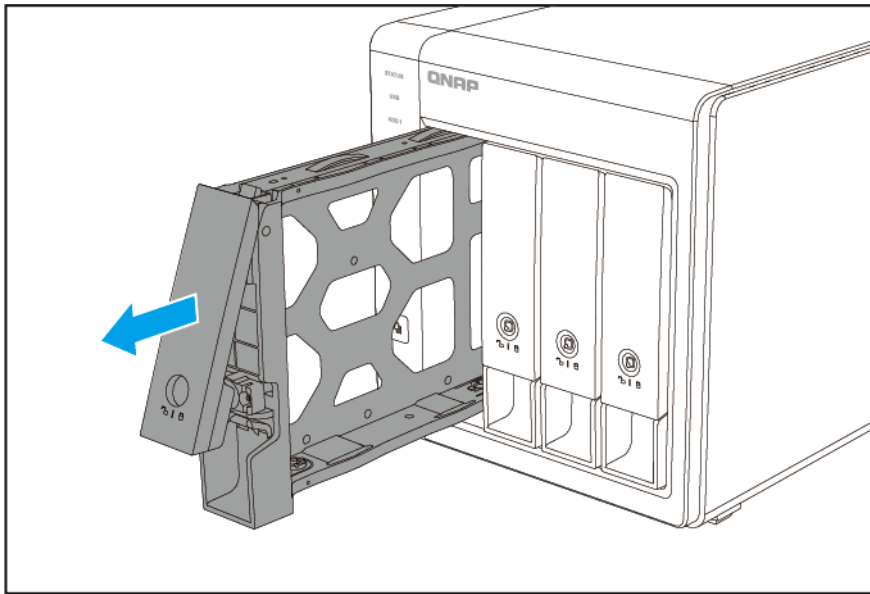
**Note**

The preinstalled drive trays come unlocked.

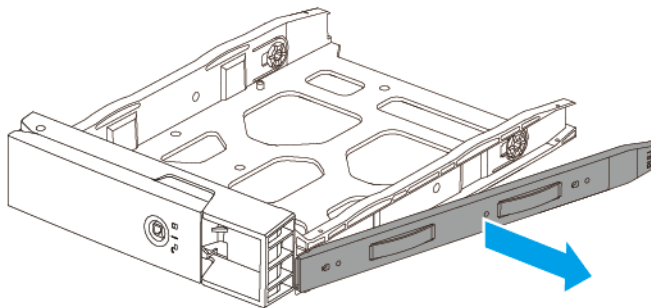
**Important**

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

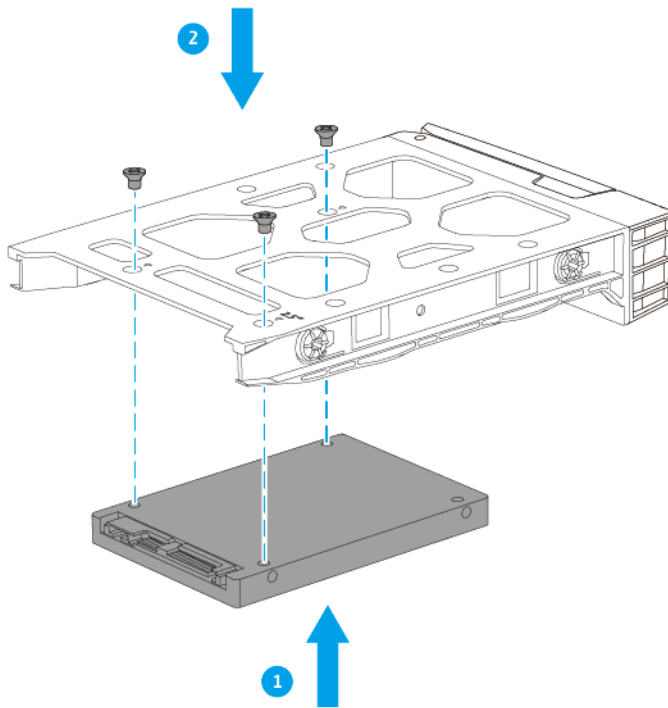
- b. Pull the handle to release the tray.
- c. Pull the tray out.



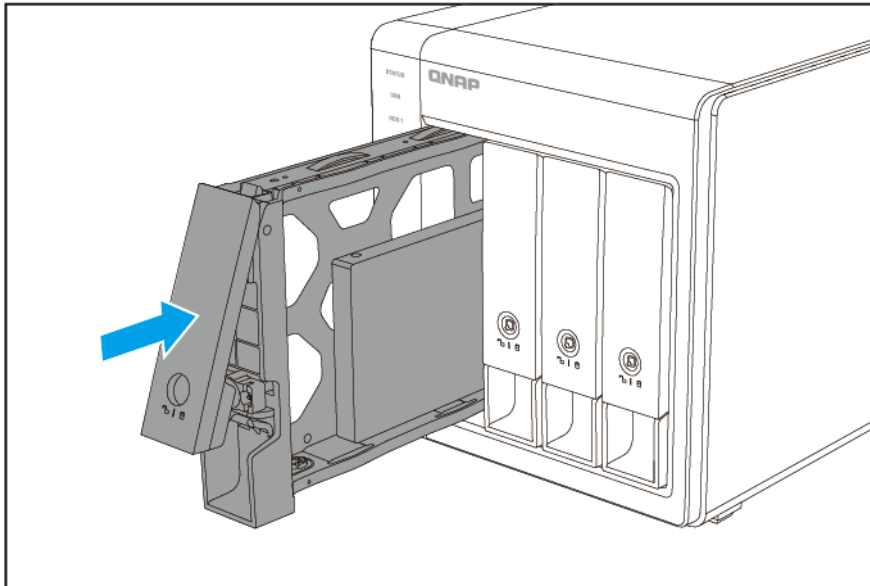
3. Install a drive on the tray.
 - a. Remove the right fastening panel from the tray.



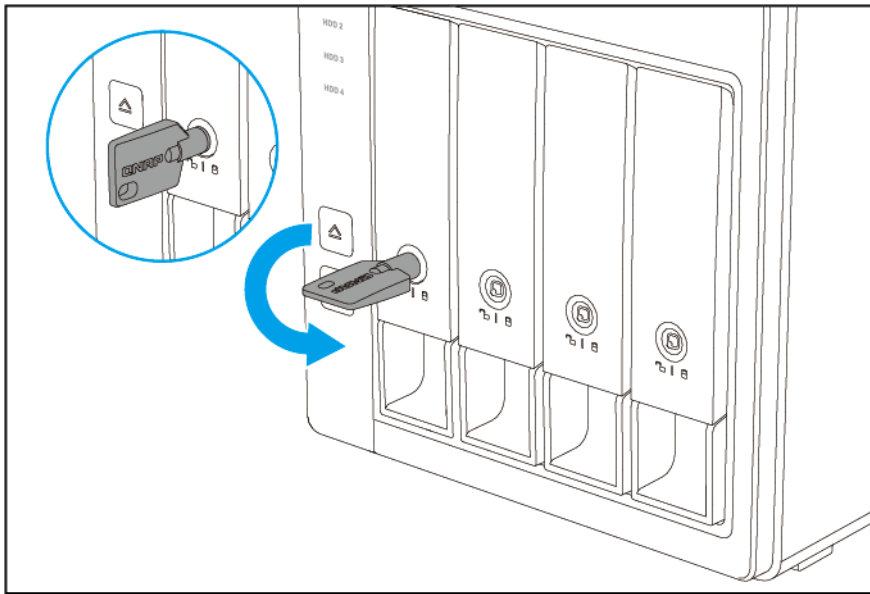
- b. Place the drive on the tray so that the holes on the bottom of the drive are aligned with the holes on the bottom of the tray.
 - c. Attach the screws.



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



- c. Optional: Lock the tray.



5. Power on the RAID enclosure.

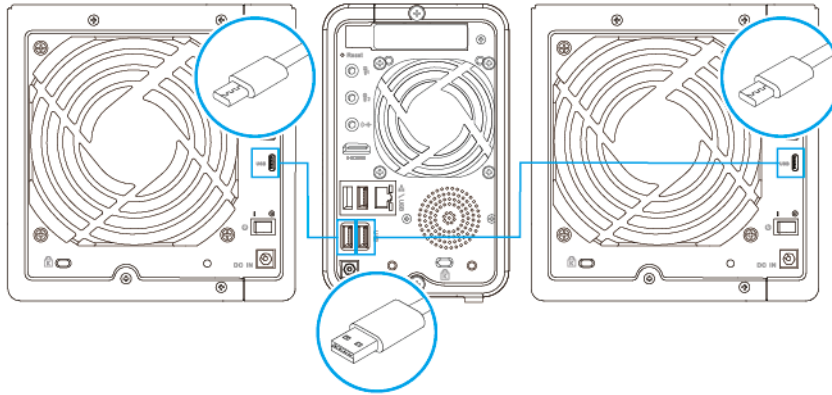
**Important**

The RAID enclosure may take up to 30 seconds to detect the installation of the new drive.

Connecting the RAID Enclosure to a NAS

A QNAP NAS can support a maximum of two external RAID enclosures.

1. Connect the RAID enclosure to the NAS.
 - a. Connect a USB cable to the USB 3.0 Type-C port on the RAID enclosure.
 - b. Connect the USB cable to a USB port on the NAS.
 - c. Optional: Connect a second RAID enclosure to the NAS.

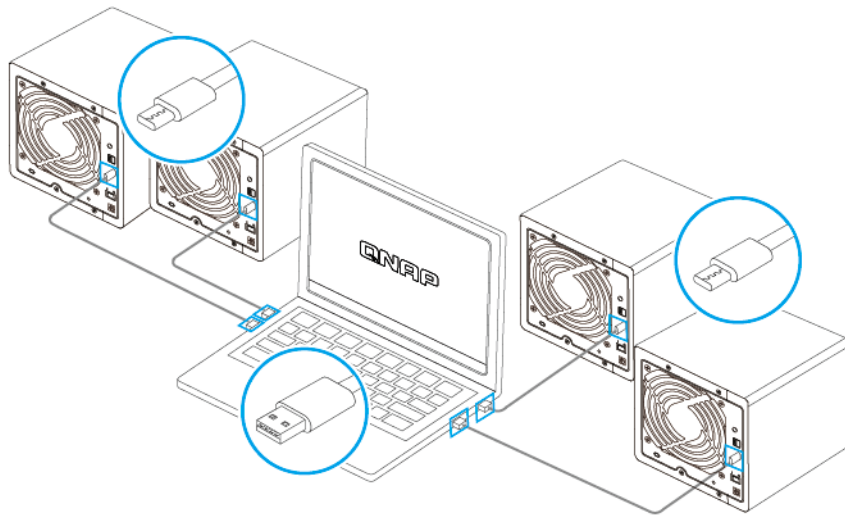


2. Power on the RAID enclosures.
3. Verify that the RAID enclosures are recognized by the NAS.
 - a. Log on to QTS as administrator.
 - b. Go to **Main Menu > Storage & Snapshots > Overview > Storage** .
 - c. Verify that the RAID enclosures are listed.

Connecting the RAID Enclosure to a Computer

A Windows, macOS, or Linux computer does not limit the number of RAID enclosures it can support. However, QNAP recommends keeping the maximum RAID enclosure connections to four at a time.

1. Connect the RAID enclosure to a computer.
 - a. Connect a USB cable to the USB 3.0 Type-C port on the RAID enclosure.
 - b. Connect the USB cable to a USB port on the computer.
 - c. Optional: Connect additional RAID enclosures to the computer.



2. Power on the RAID enclosures.
3. Verify that the RAID enclosures are recognized by the computer.
 - a. Go to your computer's disk management utility or open QNAP External RAID Manager in Windows or macOS.
 - b. Verify that the RAID enclosures are listed.

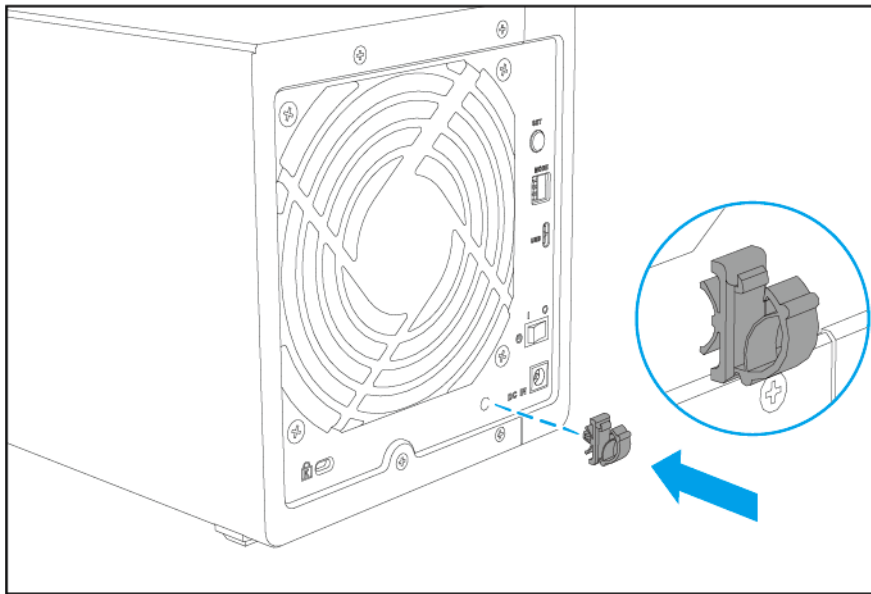
Attaching the USB Cable Clip



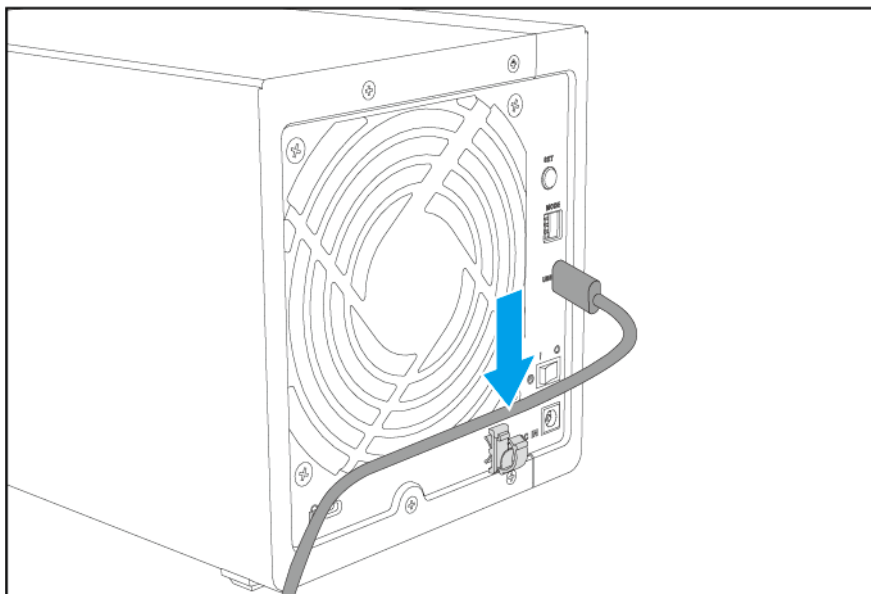
Important

The USB cable clip keeps the cable near the enclosure to avoid potential damage to the cable or any nearby components.
The clip is not intended to be removed after attaching it to the RAID enclosure.

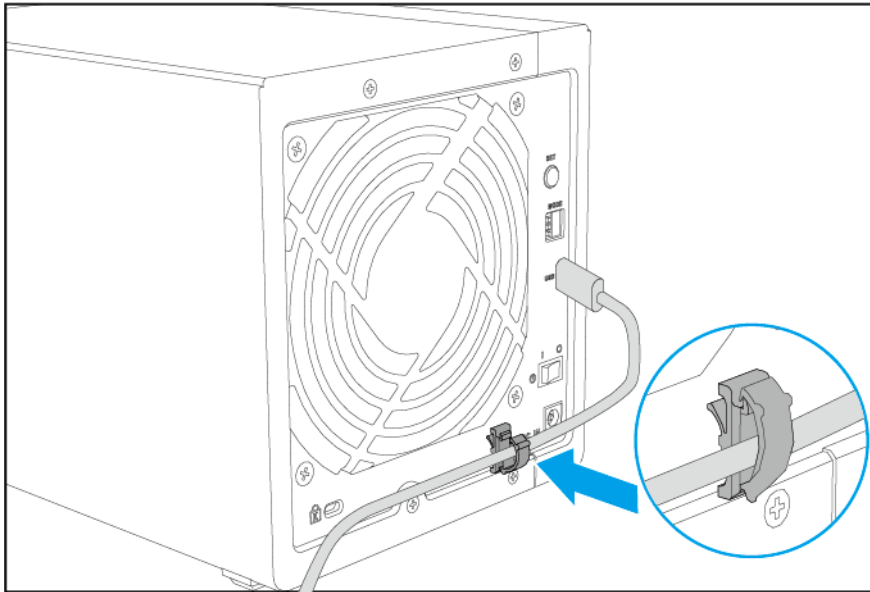
1. Insert the cable clip into the cable clip slot.



2. Insert the cable into the clip.

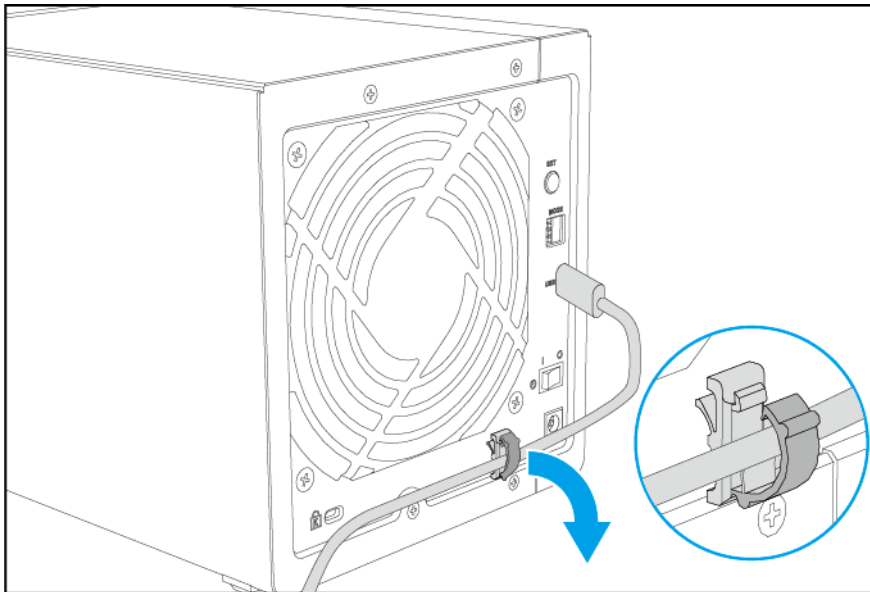


3. Fasten the clip to secure the cable.

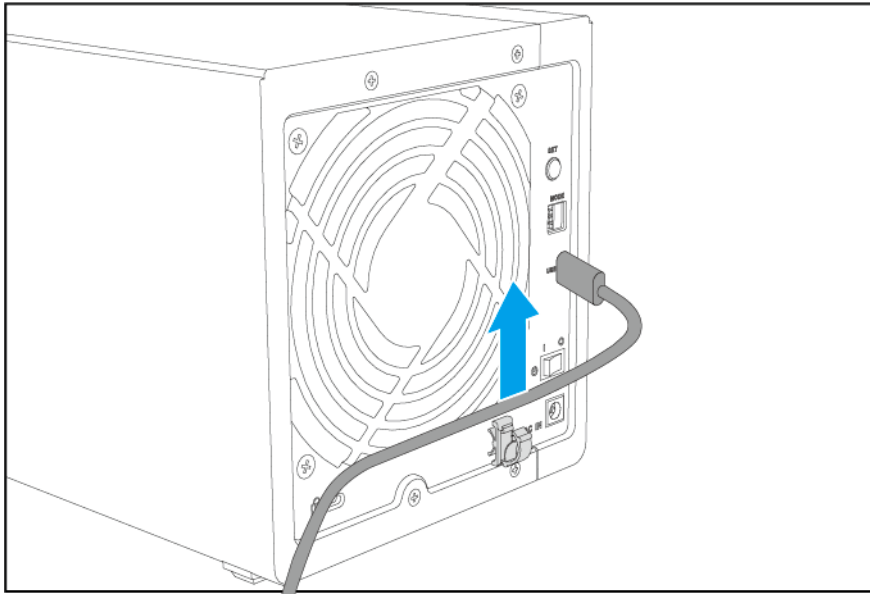


Removing a USB Cable from the USB Cable Clip

1. Release the cable clip.



2. Remove the cable from the clip.



4. RAID Configuration

This section provides information on configuring RAID settings.



Important

The following situations will interrupt the connection to the RAID enclosure, causing data being written to the drives to be lost.

- Creating or deleting a RAID group while another RAID group or disk is in use
- RAID group failure (excluding degraded mode), or adding or removing a RAID group while another RAID group is in use
- Inserting or removing a drive when the RAID enclosure is in Individual mode
- Pressing and holding the Set button for three or more seconds, until the RAID enclosure beeps

Supported RAID Types

QNAP external RAID enclosures support several RAID types.



Important


- When disks with different capacities are combined in one RAID group, all disks function according to the capacity of the smallest disk. For example, if a RAID group contains five 2 TB disks and one 1 TB disk, the total capacity will be 6 TB.
- You can only use one disk type (HDD or SSD) in a RAID group. Combining different types of disk in one RAID group is not supported.
- QNAP recommends creating separate RAID groups for each capacity and type of disk.



Note

The RAID enclosure does not support capacity expansion or RAID-level migration.

RAID Type	Number of Disks	Description	Compatibility
JBOD (Just a Bunch of Disks)	2 or more	<ul style="list-style-type: none"> • JBOD combines disks together in a linear fashion. The system writes data to a disk until it is full, and then writes to the next disk. • JBOD allows all of the disks capacity to be used, but does not provide any disk failure protection or performance benefits. • Unless you have a specific reason to use JBOD, use RAID 0 instead. 	<ul style="list-style-type: none"> • TR-002 • TR-004

RAID Type	Number of Disks	Description	Compatibility
RAID 0	2 or more	<ul style="list-style-type: none"> • Disks are combined together using striping. • RAID 0 offers the fastest read/write speeds and uses the total capacity of all the disks. • RAID 0 provides no disk failure protection. This RAID type must be paired with a data backup plan. • RAID 0 is recommended for high performance applications such as video editing. 	<ul style="list-style-type: none"> • TR-002 • TR-004
RAID 1	2	<ul style="list-style-type: none"> • An identical copy of data is stored on two disks. If either disk fails, data can still be read from the other disk. • Half of the total disk capacity is lost, in return for a high level of data protection. • RAID 1 is recommended if you have two disks. <p> Important Deleting a RAID 1 group does not format the drives.</p>	<ul style="list-style-type: none"> • TR-002 • TR-004
RAID 5	3 or more	<ul style="list-style-type: none"> • Data and parity information are striped across all disks. • The capacity of one disk is lost for parity. This means that if any one disk fails, it can be replaced and the data on it can be restored. • Striping means read speeds are increased with each additional disk. • RAID 5 is recommended for a good balance between data protection and speed. 	TR-004
RAID 10	4	<ul style="list-style-type: none"> • Every two disks are paired using RAID 1 for failure protection. Then the pairs are striped together using RAID 0. • RAID 10 provides excellent random read/write speeds and high failure protection, but half the total disk capacity is lost. • RAID 10 is recommended for application or database storage. 	TR-004

Storage Modes

QNAP external RAID enclosures support different storage modes for NAS devices and computers.

Storage Mode	Description
NAS Storage	<p>Add storage capacity to a QNAP NAS by creating a storage pool or static volume.</p> <div style="border-left: 2px solid red; padding-left: 10px;"> <p>Important When using NAS expansion mode:</p> <ul style="list-style-type: none"> • The RAID enclosure must be set to Software Control mode. For details, see Mode Switch. • The RAID enclosure cannot be set to Individual mode. • The RAID enclosure cannot contain more than one RAID group. • The RAID enclosure cannot be used to expand an existing storage pool or static volume. </div>
External Storage	Use the RAID enclosure as an external hardware RAID device with a NAS or a Windows, macOS, or Linux-based computer.

Storage Modes and Platform Support

Configuration	NAS Storage Mode	External Storage Mode
Software Control	Required	Yes
Individual	No	Yes
JBOD	Yes	Yes
RAID 0/1/5/10	Yes	Yes
Multiple RAID Groups	No	Yes

Mode Switch



You can configure RAID settings manually using the Mode switch on the rear panel of the RAID enclosure by moving the switches to the corresponding positions as illustrated above.



Important

- You can only use one disk type (HDD or SSD) in a RAID group. Combining different types of disk in one RAID group is not supported.

- If disks with different capacities are combined in one RAID group, all disks function according to the capacity of the smallest disk.

Configuration	Description
Individual	The NAS or computer identifies each installed disk as a separate, external drive. The disks are not combined into a single volume or RAID group. This configuration is also known as a port multiplier.
<ul style="list-style-type: none"> • JBOD • RAID 0 • RAID 1/10 • RAID 5 	QNAP external RAID enclosures provide hardware RAID support for these RAID types. For details, see Supported RAID Types .
Software Control	<p>This is the default factory setting. This mode allows you to configure RAID settings using QNAP External RAID Manager on a Windows or Mac computer or using Storage & Snapshots on a QNAP NAS. Go to http://www.qnap.com/download to download QNAP External RAID Manager and supporting documentation.</p> <p>Important</p> <ul style="list-style-type: none"> • At least one drive must be installed in the RAID enclosure for it to be recognized by QNAP External RAID Manager. • Do not use QNAP External RAID Manager at the same time as any other RAID management software. Doing so may affect the response time of QNAP External RAID Manager.

Configuring RAID Settings Using the Mode Switch

Switching From Individual Mode to a RAID Mode or Software Control Mode



Warning

Configuring RAID settings deletes all data on the drives, except when switching to or from Software Control mode.

1. Ensure that the Mode switch is set to Individual. For details, see [Mode Switch](#).
2. Set the Mode switch to Software Control or the desired RAID mode.
3. Press and hold the Set button for three seconds. The expansion enclosure beeps once.



Note

Pressing the Set button is not necessary when switching to Software Control mode.

4. Verify that the settings have been applied.
 - a. Open **QNAP External RAID Manager** on your computer or go to **Storage & Snapshots** in QTS.
 - b. Verify that the settings have changed.

Method	User Action
QNAP External RAID Manager	<ol style="list-style-type: none"> 1. Open QNAP External RAID Manager on your computer. 2. Locate the RAID group, and verify that the status has changed to your desired setting.
Storage & Snapshots	<ol style="list-style-type: none"> 1. Log on to QTS as administrator. 2. Go to Main Menu > Storage & Snapshots > Storage > Disks/VJBOD . 3. Locate the RAID group, and verify that the status has changed to your desired setting.

Switching From a RAID Mode or Software Control Mode to a Different Mode



Warning

Configuring RAID settings deletes all data on the drives, except when switching to or from Software Control mode.

1. Ensure that the Mode switch is set to Software Control or a RAID mode.
2. Set the Mode switch to Individual.
3. Press and hold the Set button for three seconds.
The expansion enclosure beeps once.



Tip

Stop here if you want to keep the RAID enclosure in Individual mode.

4. Set the Mode switch to Software Control or the desired RAID setting.
5. Press and hold the Set button for three seconds.
The expansion enclosure beeps once.



Note

Pressing the Set button is not necessary when switching to Software Control mode.

6. Verify that the settings have been applied.
 - a. Open **QNAP External RAID Manager** on your computer or go to **Storage & Snapshots** in QTS.
 - b. Verify that the settings have changed.

Method	User Action
QNAP External RAID Manager	<ol style="list-style-type: none"> 1. Open QNAP External RAID Manager on your computer. 2. Locate the RAID group, and verify that the status has changed to your desired setting.
Storage & Snapshots	<ol style="list-style-type: none"> 1. Log on to QTS as administrator. 2. Go to Main Menu > Storage & Snapshots > Storage > Disks/VJBOD . 3. Locate the RAID group, and verify that the status has changed to your desired setting.

5. Basic Operations

This chapter describes basic operations of the external RAID enclosure.

Eject Button

Pressing the Eject button disconnects the external RAID enclosure or its partitions from a QNAP NAS running QTS 4.3.6 (or later) or a Windows computer running the QNAP External RAID Manager utility.

For a macOS computer running the QNAP External RAID Manager utility, pressing the Eject button unmounts the volumes, but does not disconnect the RAID enclosure from the computer.

USB One Touch Copy Button

The USB One Touch Copy button allows you to copy data between an external RAID enclosure and a NAS in external storage mode.

This feature supports incremental backups. The RAID enclosure only copies files that were modified or added after the last backup.

The USB One Touch Copy button can only be used if the RAID enclosure is connected to a NAS running QTS 4.4.1 (or later) that has a USB One Touch Copy button.

Set Button

The Set button is used for configuring the RAID settings from the rear panel of the external RAID enclosure. For details, see [Mode Switch](#).

LEDs

LEDs indicate system status and related information when the external RAID enclosure is powered on. The following LED information applies only when the drive is correctly installed and when the RAID enclosure is connected.

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

LED	Status	Description
System Status	Flashes green and red alternately every 0.5 seconds	RAID rebuilding is in progress.
	Red	<ul style="list-style-type: none"> The drive is invalid. The system fan is not functioning. The RAID enclosure is in degraded mode (one member drive failed in RAID 1 or RAID 5).
	Flashes red every 2 seconds	The RAID enclosure is in standby mode, but the system is abnormal.
	Green	The RAID enclosure is ready.
	Flashes green every 1.5 seconds	The RAID enclosure is in standby mode.
	Off	The RAID enclosure is powered off.

LED	Status	Description
Drive	Flashes green	<ul style="list-style-type: none"> Data is being accessed. Data is being copied. An external application is monitoring the RAID enclosure.
	Green	The drive can be accessed.
	Off	<ul style="list-style-type: none"> The RAID enclosure is in standby mode. No drives are detected.
USB	Blue	The RAID enclosure is connected to the host.
	Off	<ul style="list-style-type: none"> The RAID enclosure is not connected to the host. The RAID enclosure is in standby mode.

Audio Alert

Duration	Frequency	Description
Short beep (0.5 seconds)	1	<ul style="list-style-type: none"> The RAID enclosure is starting up. The RAID enclosure is ready. The RAID settings are modified.
Long beep (2 seconds)	3 times (every 5 minutes)	<ul style="list-style-type: none"> The system fan is not functioning. The system or drives are overheating. A RAID group is in degraded mode. A RAID group failed.
	3 times (non-repeating)	<ul style="list-style-type: none"> The RAID rebuilding process started. The RAID rebuilding process finished.

Standby Mode

The RAID enclosure features standby mode to help reduce noise and power consumption. When the RAID enclosure enters standby mode, the system fan and installed HDDs stop spinning, and system processes are paused. Upon waking, the RAID enclosure returns to the previous system state and any paused processes are resumed.

The RAID enclosure enters standby mode under the following conditions:

- The host enters hibernation or standby mode or is powered off.
The RAID enclosure only enters standby mode if the USB power design of the host supports this feature.
- The USB cable is disconnected.



Note

The TR-002 will not enter standby mode during RAID rebuilding. If prompted to enter standby mode during RAID rebuilding, the TR-002 will finish RAID rebuilding before entering standby mode.

6. Troubleshooting

This chapter describes basic troubleshooting information.

Forcing Storage & Snapshots or QNAP External RAID Manager to Recognize the RAID Enclosure

If Storage & Snapshots or QNAP External RAID Manager is unable to locate the RAID enclosure, the drives or data may be faulty.

1. Power off the RAID enclosure.
2. Remove all drives.
3. Power on the RAID enclosure.
4. Locate the RAID enclosure using Storage & Snapshots or QNAP External RAID Manager.
5. Reinsert the drives.
6. Continue with RAID configuration.

Hot-swapping Failed Drives

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

- RAID 1: One member drive fails
- RAID 5: One member drive fails
- RAID 10:
 - One member drive fails
 - Two member drives fail (one in bay 1 or 2 and one in bay 3 or 4)

1. Log on to QTS.
2. Go to **Main Menu > Storage & Snapshots > Storage > External Storage** .
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 RAID enclosure.
6. Wait for 30 seconds or until the RAID enclosure 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 RAID enclosure beeps twice.
10. Wait for 30 seconds or until the RAID enclosure beeps twice.
11. Go to **Main Menu > Storage & Snapshots > Storage > Storage/Snapshots** .

12. Locate the volume that contains the new drive and then verify that the status is `Rebuilding`.

Support and Other Resources

QNAP provides the following resources:

Resource	URL
Documentation	http://docs.qnap.com
Helpdesk	http://helpdesk.qnap.com
Downloads	http://download.qnap.com
Community Forum	http://forum.qnap.com

7. Glossary

QTS

QNAP NAS operating system

QNAP External RAID Manager

Windows and macOS utility that allows you to view and configure QNAP external RAID enclosures

Storage & Snapshots

QTS utility that allows you to view and configure QNAP external RAID enclosures connected to a QNAP NAS

8. 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, which may be amended from time to time by QNAP in its discretion.

Disclaimer

Information in this document is provided in connection with products of QNAP Systems, Inc. (the "QNAP"). No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document. Except as provided in QNAP's terms and conditions of sale for such products, QNAP assumes no liability whatsoever, and QNAP disclaims any express or implied warranty, relating to sale and/or use of QNAP products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right.

QNAP products are not intended for use in medical, life saving, life sustaining, critical control or safety systems, or in nuclear facility applications.

In no event shall QNAP's liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential damages resulting from the use of the product, its accompanying software, or its documentation. QNAP makes no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose. QNAP reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.

Back up the system periodically to avoid any potential data loss is recommended. QNAP disclaims any responsibility of all sorts of data loss or recovery.

Should you return any components of the package of QNAP products such as NAS (Network Attached Storage) for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

All the features, functionality, and other product specifications are subject to change without prior notice or obligation. Information contained herein is subject to change without notice.

Further, the ® or ™ symbols are not used in the text.

GNU Public License

Version 3, 29 June 2007

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copy left license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the

Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

Terms and Conditions

1. Definitions.

“This License” refers to version 3 of the GNU General Public License.

“Copyright” also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

“The Program” refers to any copyrightable work licensed under this License. Each licensee is addressed as “you”. “Licensees” and “recipients” may be individuals or organizations.

To “modify” a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a “modified version” of the earlier work or a work “based on” the earlier work.

A “covered work” means either the unmodified Program or a work based on the Program.

To “propagate” a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To “convey” a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays “Appropriate Legal Notices” to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2)

tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

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.

The Corresponding Source for a work in source code form is that same work.

3. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below.

Sublicensing is not allowed; section 10 makes it unnecessary.

4. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

5. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

6. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

- a. The work must carry prominent notices stating that you modified it, and giving a relevant date.
- b. The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".
- c. You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

- d. If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

7. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- a. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- b. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- c. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with

the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

- e. Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A “User Product” is either (1) a “consumer product”, which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, “normally used” refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

“Installation Information” for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

8. Additional Terms.

“Additional permissions” are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

- a. Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or
 - b. Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
 - c. Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
 - d. Limiting the use for publicity purposes of names of licensors or authors of the material; or
 - e. Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or
 - f. Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.
- All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.
- If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.
- Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

9. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

10. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

11. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An “entity transaction” is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

12. Patents.

A “contributor” is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's “contributor version”.

A contributor's “essential patent claims” are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, “control” includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a “patent license” is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To “grant” such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. “Knowingly relying” means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is “discriminatory” if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

13. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

14. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

15. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License “or any later version” applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

16. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

17. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

18. Interpretation of Sections 16 and 17.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

FCC Notice

FCC Class B Notice



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

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



Note

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

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



Important

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

CE Notice



This QNAP NAS complies with CE Compliance Class B.

SJ/T 11364-2006



本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	0	0	0	0	0	0
显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
风扇组装	0	0	0	0	0	0
电力供应组装	0	0	0	0	0	0
电池	0	0	0	0	0	0

O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。
 X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

VCCI Notice



VCCI-B

BSMI Notice



D33B77
RoHS