# JBOD Enclosure Software User Guide

## User Guide

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# 1. Overview

## About QNAP JBOD Enclosures

QNAP JBOD enclosures are a series of expansion units designed to increase the storage capacity of your NAS or computer. JBOD enclosures offer a wide range of storage applications; you can manage drives independently or group them together in a software RAID configuration using a host NAS or computer. QNAP offers JBOD enclosures with USB 3.1 Gen 2 Type-C or SFF interface ports to ensure quick and efficient data transfer between the JBOD enclosure and the host device.

## QNAP JBOD Enclosure Types

| Enclosure Type | Description | Supported Platforms | Example Models |
|---|---|---|---|
| SATA JBOD enclosure | A JBOD enclosure that uses SFF interface ports to connect to a NAS or computer. These enclosures can only be connected to a host device that has a QNAP QXP host bus adapter installed. | Computer:<br>• Windows<br>• Linux<br>NAS:<br>• QTS<br>• QTS hero | • TL-D400S, TL-D800S, TL-D1600S<br>• TL-R400S, TL-R1200S-RP |
| USB JBOD enclosure | A JBOD enclosure that uses USB 3.1 Gen 2 Type-C ports to connect to a NAS or computer. | Computer:<br>• Windows<br>• Linux<br>• macOS<br>NAS:<br>• QTS<br>• QTS hero | • TL-D800C<br>• TL-R1200C-RP |

# 2. QNAP JBOD Manager

QNAP JBOD Manager is a utility for Windows, Linux, and macOS that enables you to view and configure connected QNAP JBOD enclosures.
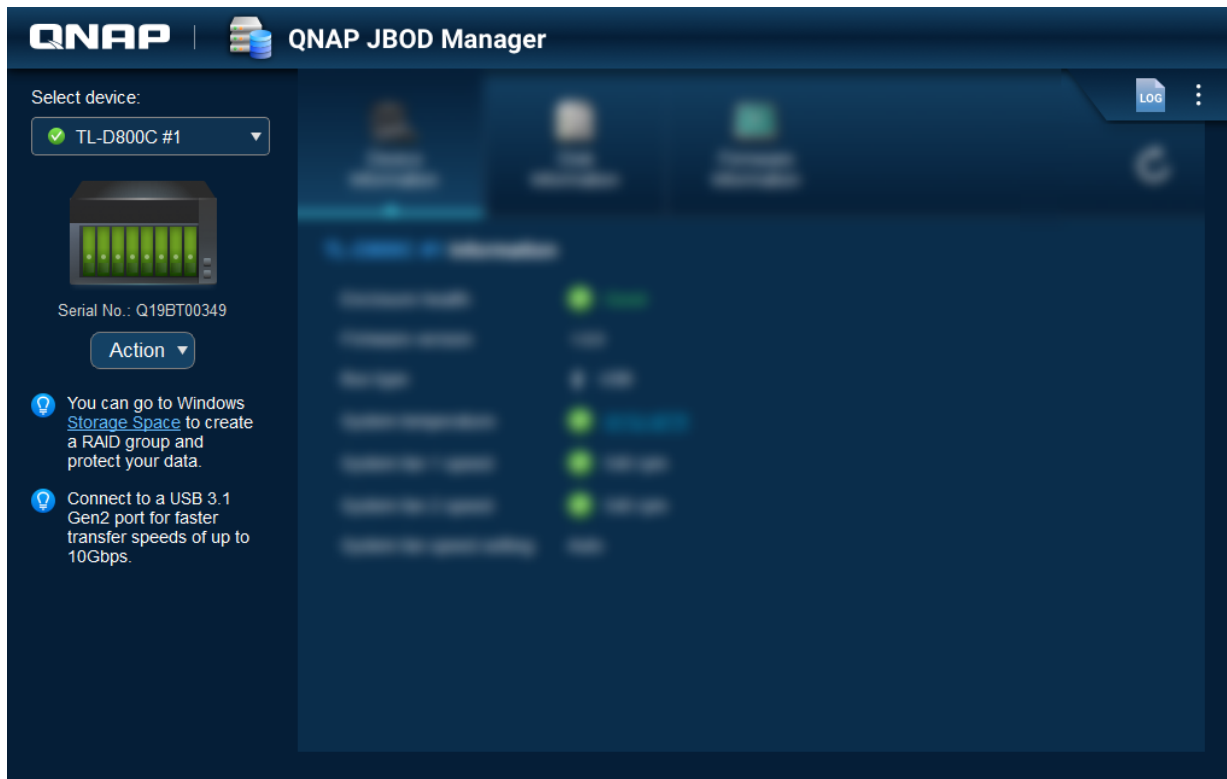
> **Tip**
> To download QNAP JBOD Manager, go to https://www.qnap.com/utilities.



## Home Screen

The home screen displays basic information about the selected device and provides access to several device management options.

| UI Element | Description |
|---|---|
| **Select device** | Select the JBOD enclosure that you want to manage. |
|  | View the status of each installed disk.<br><br>• **Green**: The disk is healthy and operating normally.<br><br>• **Orange**: The disk has encountered one or more issues.<br><br>💡 **Tip**<br>Click on an installed disk to view S.M.A.R.T information for the disk. |
| **Action** > **Locate** | Prompt the drive LEDs to blink and the enclosure to beep so that you can easily locate the device in a server room or on a rack. |
| **Action** > **View Mapping Table** (SATA JBOD only) | Opens the **SATA JBOD Mapping Table** screen.<br>This table shows which JBOD enclosures are connected to each QXP card. Each JBOD port can connect 4 JBOD enclosure disks to the host. |
| **Action** > **Rename** (SATA JBOD only) | Modify the display name of your SATA JBOD enclosure. |
| **Action** > **Edit Alert** | Enable or disable audio alerts.<br><br>💬 **Note**<br>This feature is only available when the JBOD enclosure's audio alert switch is toggled on.<br>For details, refer to the JBOD enclosure's hardware user guide. |

| UI Element | Description |
|---|---|
| • **Action** > **Eject** (Windows) <br><br> • **Action** > **Unmount Volumes** (Linux/ macOS) | Disconnect the device from the host computer. |
|  | View the system logs. <br> For details, see System Logs. |
|  | Check for updates, view help, and modify the language or region settings. |

## Device Information

This screen shows basic information about the selected JBOD enclosure.



> 💡 **Tip**
>
> Click  to refresh enclosure information and statuses.

## Modifying the Device Temperature Threshold

QNAP JBOD Manager issues a temperature warning when the device's internal temperature reaches the specified threshold.

1.  Open QNAP JBOD Manager.

2.  Go to **Device Information**.

3.  Click the system temperature.

The **Device Temperature Threshold** window appears.

4. Specify a temperature threshold between 55°C and 69°C.
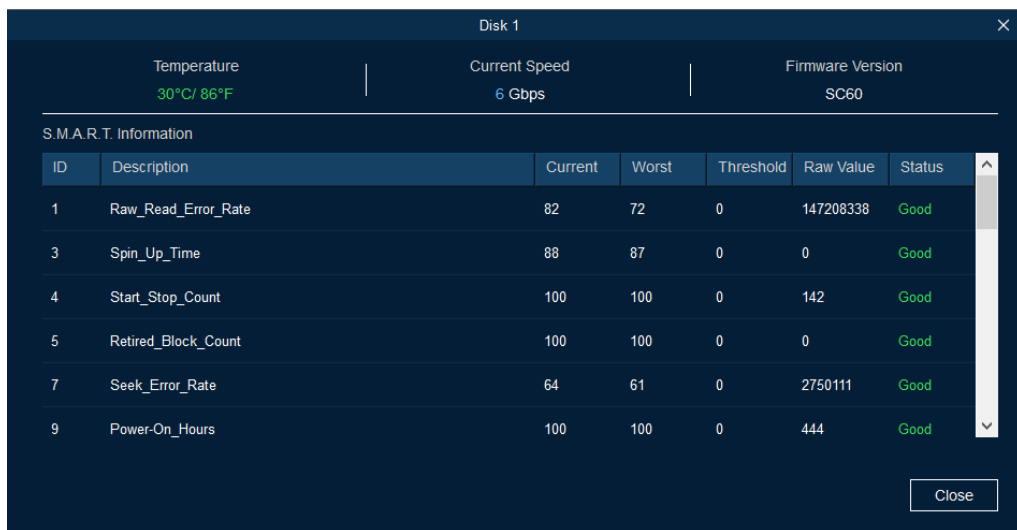
5. Click **Apply**.

## Disk Information

This screen shows basic disk information and the status of selected disks. You can choose to view information for a single disk or select **All disks** to view the installed disks as a list.




**Tip**
Click on a disk's status to view detailed information about the disk, including its S.M.A.R.T. information.

## Modifying the S.M.A.R.T. Polling Time

You can specify how often (in minutes) the device checks disks for S.M.A.R.T. errors.

1. Open QNAP JBOD Manager.

2. Go to **Disk Information**.

3.
   Next to **S.M.A.R.T. polling time**, click .
   The **S.M.A.R.T. Polling Time** window appears.

4. Specify the S.M.A.R.T. polling time (in minutes).

   • Allowed values: 1 to 60

   • Default value: 5

   ⚠ **Warning**
   High polling frequency may affect disk performance.

5. Click **Apply**.

## Firmware Information

This screen shows the current firmware version of your JBOD enclosure and provides options for updating the firmware.

| Firmware Update Method | Description |
|---|---|
| Automatic update | QNAP JBOD Manager automatically downloads and installs the latest version of the device firmware.<br>For details, see Updating the Firmware Automatically.<br><br>**Note**<br>You can only select this option if a firmware update is available for the JBOD enclosure. |
| Manual update | Update the firmware by uploading a local firmware IMG file from your computer.<br>For details, see Updating the Firmware Manually.<br><br>**Tip**<br>You can download firmware updates at https://download.qnap.com. |

## Updating the Firmware Automatically

**Important**

- All cables must be connected to the JBOD enclosure to update the firmware.

- In macOS, the host device must be connected to power to update the firmware.

- QNAP recommends unmounting RAID groups from disks installed in the JBOD enclosure before updating the firmware.

1. Open QNAP JBOD Manager.

2. Go to **Firmware Information**.

3. Under **Update method**, select **Automatically install the latest firmware version**.

> **Note**
> You can only select this option if a firmware update is available for the JBOD enclosure.

4. Click **Update Firmware**.
   The **Firmware Update** window appears.
   QNAP JBOD Manager downloads the firmware update file.

5. Restart the computer.
   QNAP JBOD Manager opens and installs the firmware.

6. Ensure that the firmware is updated.

   a. Go to **Firmware Information**.

   b. Verify that the **Current firmware version** matches the **Latest firmware version**.

## Updating the Firmware Manually

> **Important**
>
> - All cables must be connected to the JBOD enclosure to update the firmware.
>
> - In macOS, the host device must be connected to power to update the firmware.
>
> - QNAP recommends unmounting RAID groups from disks installed in the JBOD enclosure before updating the firmware.

1. Open QNAP JBOD Manager.

2. Go to **Firmware Information**.

3. Under **Update method**, select **Select a local firmware file**.

> **Tip**
> You can download firmware updates at https://download.qnap.com.

4. Click **Browse**.

5. Select the firmware update file from your computer.

6. Click **Update Firmware**.
   The **Firmware Update** window appears.

7. Restart the computer.
   QNAP JBOD Manager opens and installs the firmware.

8. Ensure that the firmware is updated.

   a. Go to **Firmware Information**.

   b. Verify that the **Current firmware version** matches the **Latest firmware version**.

## System Logs

System logs are records of all the events that occur on a JBOD enclosure. You can filter, search, and download logs for help with troubleshooting.

**Tip**

Click [LOG] on the Home Screen to open the **System Logs** window.
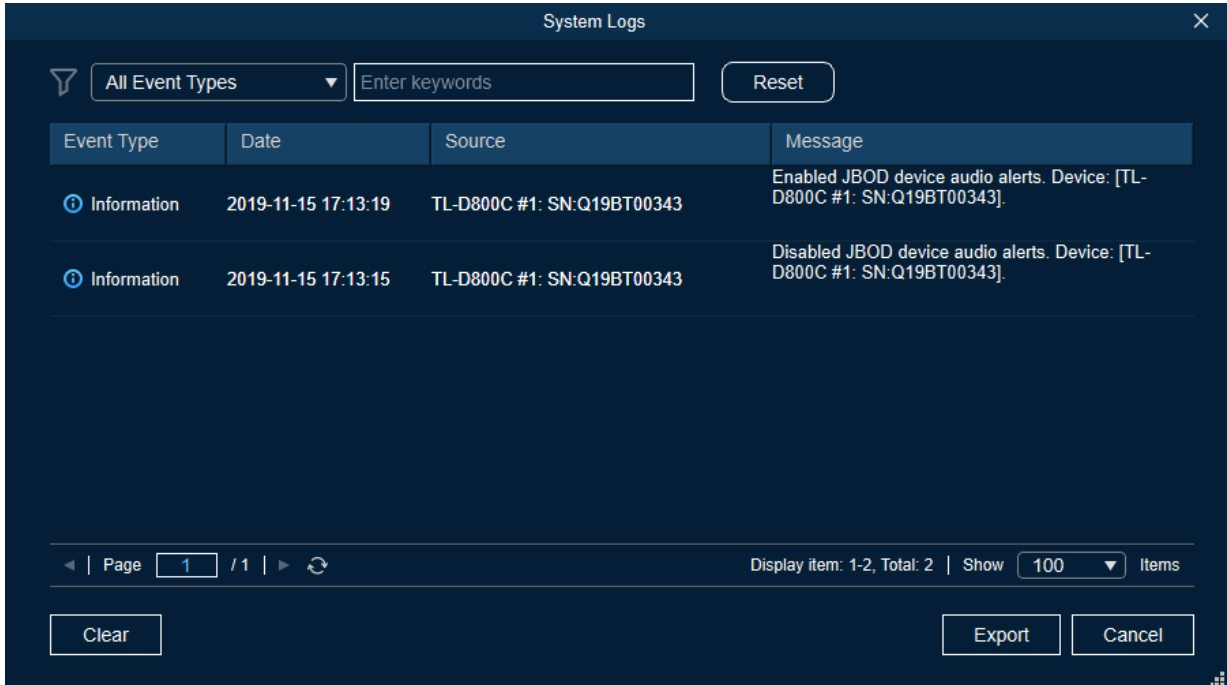


| UI Element | Description |
|---|---|
| ▼ (filter icon) | Filter the log messages by event type or keyword. Select one of the following event types:<br><br>• All Event Types<br><br>• Information<br><br>• Warning<br><br>• Error |
| **Reset** | Remove the filter and show all log messages. |
| **Clear** | Delete all log messages. |
| **Export** | Export all log messages to a CSV file. If a filter is applied, only the filtered logs are exported. |
| **Cancel** | Close the **System Logs** window. |

# 3. QTS JBOD Management

You can manage JBOD enclosures in QTS from the following locations in the Storage & Snapshots utility.

| Location | Description |
|---|---|
| **Disks/VJBOD** | View, manage, and configure storage for attached JBOD enclosures. You can create storage pools, volumes, and RAID groups using disks installed in the JBOD enclosure. For details, see Disks/VJBOD. |
| **External Storage** | View and manage attached JBOD enclosures and installed disks. For details, see External Storage. |

## Autoplay Menu

The autoplay menu appears in QTS when a JBOD enclosure is connected to a NAS. The actions available in this menu vary according to the enclosure's current configuration.
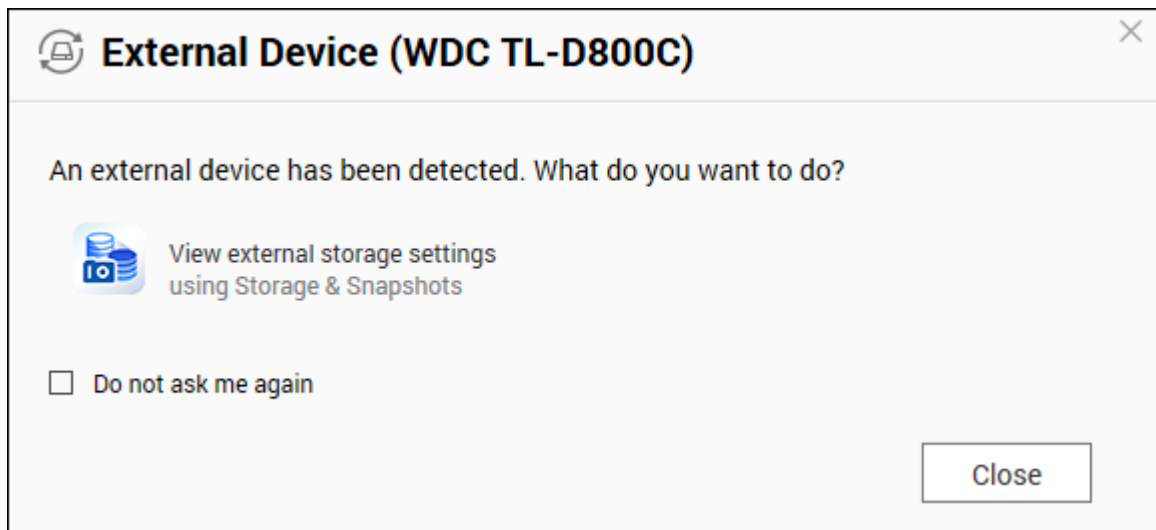


## Disks/VJBOD

Open QTS and go to **Storage & Snapshots** > **Storage** > **Disks/VJBOD** to access JBOD enclosure storage configuration options.

For information on managing disks, including creating and managing storage pools, volumes, and other features, see the QTS User Guide.

| UI Element | Description |
|---|---|
| Device menu | Select a JBOD enclosure or disk to manage. |
| **Performance test** | QTS can test the sequential and random read speeds of your disks. For more information, see the QTS User Guide. |
| **Recover > Recover Enclosure** | Recover storage pools or static volumes on a JBOD enclosure that was accidentally disconnected from the NAS. For more information, see the QTS User Guide. |
| **Recover > Reinitialize Enclosure IDs** | Reset all JBOD enclosure IDs, and then give each enclosure a new ID number starting from 1 based on the order in which they are physically connected. <br><br> 💡 **Tip** <br> Use this action if the expansion unit IDs appear out of sequential order in the enclosure list. |
| **Recover > Scan and Recover Storage Space** | Scan all free disks on the NAS and all connected expansion units for existing volumes and storage pools. <br><br> 💡 **Tip** <br> Perform this action after moving disks between NAS devices. |
| **RAID Group** | Select and view RAID group details. |

# JBOD Enclosure Actions

Go to **Storage & Snapshots** > **Storage** > **Disks/VJBOD** and select a JBOD enclosure to perform any of the following actions.
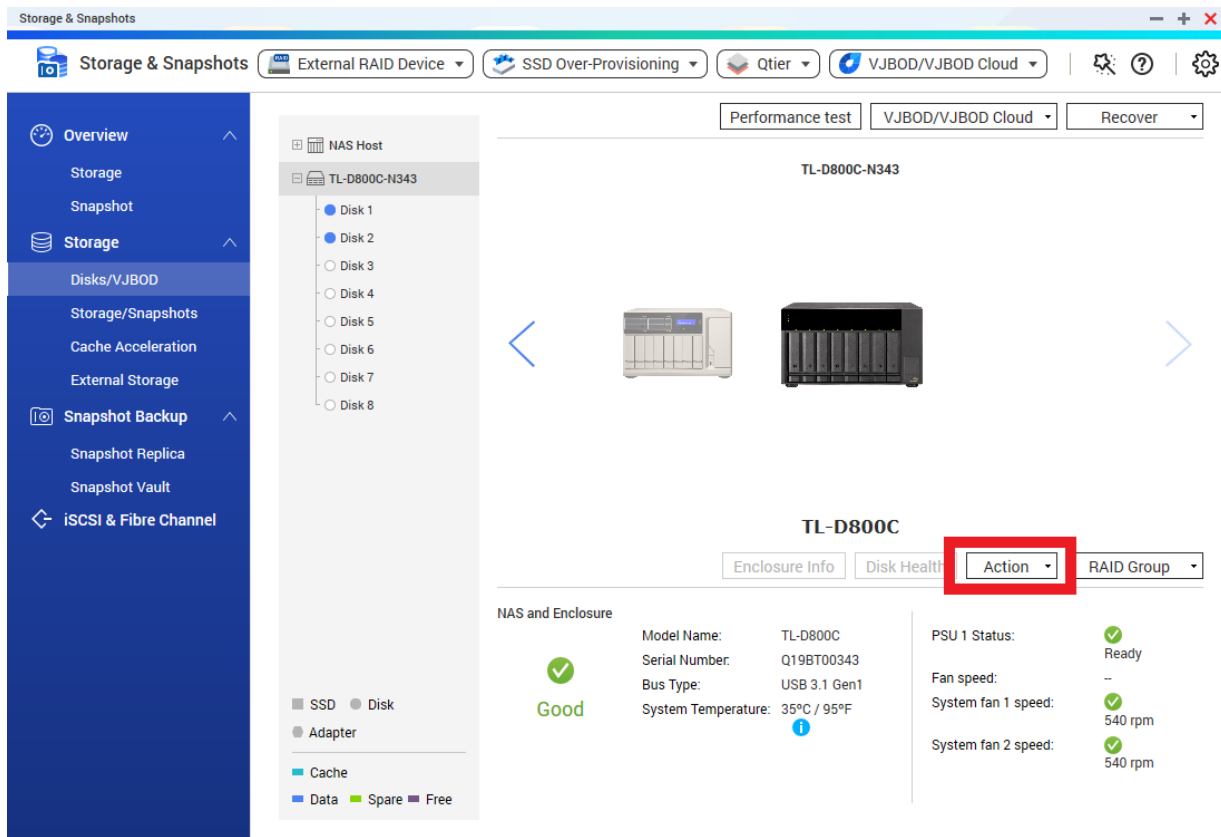


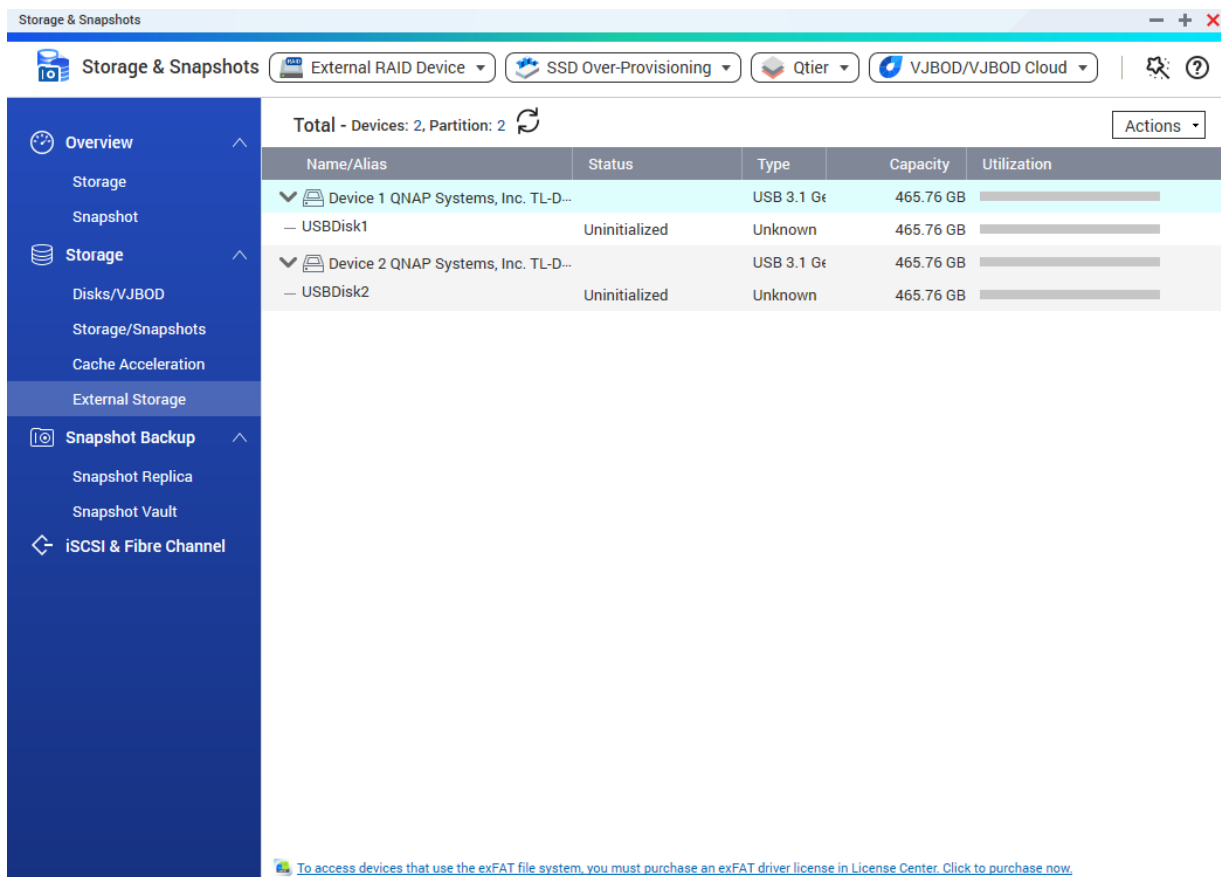| Action | Description |
|---|---|
| **Action** > **Locate** | Prompt the chassis LEDs to blink and the enclosure to beep so that you can easily locate the device in a server room or on a rack. |
| **Action** > **Scan** | QTS scans the JBOD enclosure for existing RAID groups, storage pools, volumes and/or iSCSI LUNs. |
| **Action** > **Safely Detach** | Stop all activity and safely unmount the enclosure from the host NAS. |
| **Action** > **Check for Update** | Update the JBOD enclosure's firmware. |

# JBOD Enclosure Disk Actions

Go to **Storage & Snapshots** > **Storage** > **Disks/VJBOD** and select a disk installed in a JBOD enclosure to perform any of the following actions.
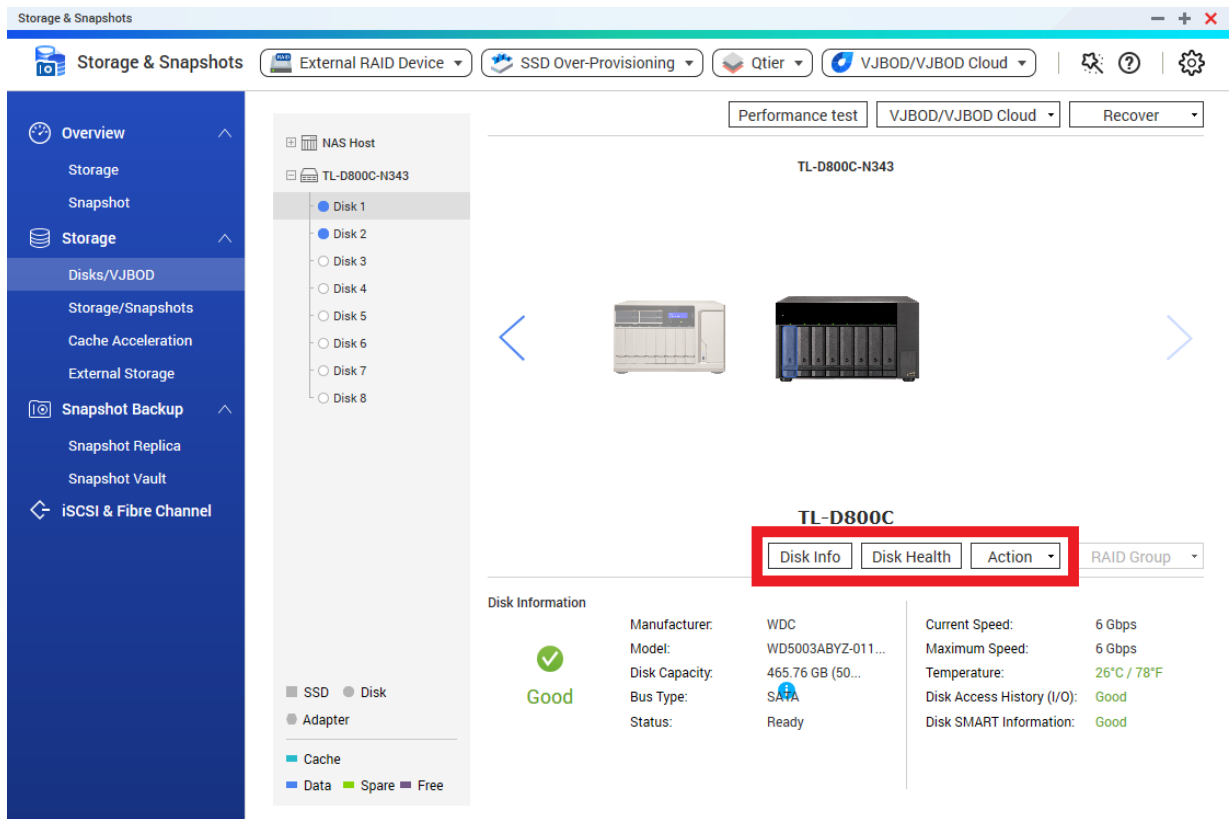
| Action | Description |
|---|---|
| **Disk Info** | View full details of the installed disk, including the manufacturer, model, serial number, firmware version, and BUS type. |
| **Disk Health** | View detailed information about the health of the installed disk, including health summary and S.M.A.R.T. information. You can also run a S.M.A.R.T test and modify disk settings.<br>For more information, see the QTS User Guide. |
| **Action** > **Scan Now** | QTS scans the installed disk for bad blocks and other disk errors. |
| **Action** > **Locate** | Prompt the drive LED to blink so that you can easily locate the disk in a server room or on a rack. |
| **Action** > **Secure Erase** | Permanently delete all data on the disk to ensure that the data is not recoverable. Performing this action also restores the disk's performance to its original factory state.<br>For more information, see the QTS User Guide. |
| **Action** > **New Volume** | Create a new static volume or RAID group using the disks installed in the JBOD enclosure.<br>For more information, see the QTS User Guide. |
| **Action** > **Detach** | Stop all activity and safely unmount the enclosure from the host NAS. |

## External Storage

Go to **Storage & Snapshots** > **Storage** > **External Storage** to view and manage disks installed in the JBOD enclosure.

## External Storage Device Actions

Go to **Storage & Snapshots** > **Storage** > **External Storage** and select a device to perform any of the following actions.

| Action | Description |
|---|---|
| **Actions** > **Erase** | Erase all existing partitions and data on the selected device. |
| **Actions** > **Eject** | Eject the device. |

## External Storage Disk Actions

Go to **Storage & Snapshots** > **Storage** > **External Storage** and select a disk to perform any of the following actions.

| Action | Description |
|---|---|
| **Actions** > **Storage Information** | View storage information about the installed disk. |

| Action | Description |
|---|---|
| **Actions** > **Format** | The **Format Partition** window opens.<br><br>1. Select a disk.<br><br>2. Select a file system.<br><br>3. Specify a label for the disk.<br><br>4. Optional: Enable encryption.<br><br>    a. Select an encryption type.<br><br>    b. Specify and verify an encryption password.<br><br>    c. Optional: Select **Save encryption key**.<br><br>5. Click **Format**. |
| **Actions** > **Eject** | Eject the disk. |