




**QNAP**

# TS-451DeU

## 用户指南



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# 1. 重要信息

## 原始包装

请保留原始包装和包装材料。如果要产品退货或寄回进行修理，请使用原始包装以免损坏。

对于因包装不当受损的产品，QNAP 保留不提供退款或保修服务的权利。

## 硬件缺陷

如果您的 QNAP 产品有硬件方面的缺陷，请将产品退回 QNAP 或 QNAP 授权的服务中心进行维修或更换。您本人或未经授权的第三方对产品进行的任何维修或维护流程均会使保修失效。

对于因未经授权进行的修改和安装不受支持的第三方应用程序而造成的任何损坏或数据丢失，QNAP 概不负责。

有关详细信息，请参见 [QNAP 产品保修服务条款](#)。

## 安全信息

以下说明有助于确保个人安全和环境安全。在执行任何操作之前，请仔细阅读这些说明。

### 一般说明

- 设备应存放在通过器具、锁和钥匙或任何安保措施限制进入的安全场所。
- 只有经过授权并掌握技能的合格人员才能实际接触设备，相关人员需了解所有限制措施、安全预防措施和安装维护流程。

### 警告



为避免潜在伤害或组件的损坏，请务必等硬盘和其他内部系统组件冷却后再触碰。



请执行静电放电 (ESD) 规程，以避免可能的人员受伤或组件受损。

## 电源

### 警告



为降低失火或触电风险，请确保只将电源线连接到接地良好的电源插座。



为避免受到严重伤害，安装或更换系统组件前，经培训的维修技师必须先从设备拔下所有电源单元线。

## 运动的部件

### 警告



**转动的风扇叶片：** 在设备连接到电源时，使您的身体各部位远离任何正在转动的风扇叶片。



**运动的组件：** 使您的身体各部位远离任何正在运动的其他组件。

设备不适合在儿童可能会出现的地方使用。

## 系统电池

### 警告



#### 摄入危险

- 此产品配有纽扣电池。
- 请避免儿童接触电池。
- 如果被吞食，锂纽扣电池可能会在 2 小时内导致严重或致命伤害。
- 如果您认为可能电池已被吞食或部于身体的某个部位，请立即就医求助。

- 为避免潜在的电池爆炸、导致人员受伤或组件受损，请确保使用同型电池更换现有电池。
- 请按当地法规或电池制造商的指示正确处置使用过的电池。
- 即使是使用过的电池，也可能导致严重伤害或死亡。
- 有关诊疗信息，请致电当地中毒控制中心。
- 有关设备中纽扣电池类型和电压的信息，请参见硬件规格表。

- 非充电电池不可充电。
- 请勿强行放电、充电、拆卸、加热或焚烧。这样做可能会导致因通风、泄漏或爆炸造成的化学烧伤而导致的伤害。
- 确保电池按照极性 (+ 和 -) 正确安装。
- 请勿将新旧电池或不同品牌、不同类型的电池 (如碱性电池、碳锌电池、充电电池等) 混用。
- 对于长时间不使用的设备, 请根据当地法规取出并立即回收或处理电池。
- 始终完全固定电池盒。如果电池盒无法牢固关闭, 请停止使用本产品, 取出电池, 并将电池置于儿童接触不到的地方。

## 导轨套件

机架式型号可能需要导轨套件以便安装到服务器机架或机柜上。

为确保设备和人身安全, 在安装导轨套件和安装设备之前, 请仔细阅读导轨套件的安装说明。

要检查您的设备是否为机架式设备, 请参见硬件规格表。

### 警告

- 当导轨套件安装在服务器机架上时, 除安装或拆卸设备外, 请勿将导轨完全展开或拔掉门锁。
- 如果导轨完全展开并拔掉门锁, 可能会导致重型设备坠落。这可能会导致设备损坏, 以及严重甚至致命的伤害。
- 在准备导轨以安装或拆卸设备前, 请仔细阅读并确保理解安装说明。
- 安装或拆卸设备时, 请勿在设备或导轨上放置任何物品或增加任何额外的负重。
- 安装设备时, 请将设备完全推入服务器机架, 使导轨完全锁住, 并将设备固定在服务器机架上。

## 2. 产品概述

本章提供有关 QNAP TS-451DeU NAS 的基本信息。

### 关于 TS-451DeU

TS-451DeU 由 Intel® Celeron® J4025 双核 2.0 GHz 处理器和 AES-NI 硬件加密引擎提供支持，可支持高达 8 GB 的 DDR4 内存。此型 NAS 特有两个 M.2 2280 SATA 6 Gbps SSD 插槽并提供了四个可热插拔 SATA 6 Gbps 硬盘架，可支持机械硬盘和固态硬盘。TS-451DeU 还包含两个 USB 2.0 端口和两个 USB 3.2 Gen 1 端口。

### 硬件规格

#### 提示

型号规格如有更改，恕不另行通知。要查看最新规格，请转到 <https://www.qnap.com>。

组件	TS-451DeU-2G
处理器	
CPU	Intel® Celeron® J4025
频率	2 核/2 线程 2.00 GHz 基本/2.90 GHz 脉冲
架构	x86 64 位
加密引擎	AES-NI
内存	
预安装内存	2GB: 1 x 2 GB SODIMM DDR4
内存插槽	2 x SODIMM DDR4 <div style="border: 1px solid #ccc; background-color: #fff9c4; padding: 10px; margin-top: 10px;"> <p><b>重要</b></p> <ul style="list-style-type: none"> <li>请仅使用 QNAP 内存模块，以保证系统性能和稳定性。对于有多个内存插槽的 NAS 设备，请使用规格相同的 QNAP 模块。</li> <li>使用不受支持的模块可能导致性能下降、引发错误或使操作系统无法启动。</li> </ul> </div>
最大内存	8 GB RAM: 2 x 4 GB

组件	TS-451DeU-2G
闪存	4 GB (双重引导操作系统保护)
存储	
硬盘架	4 x 3.5 英寸 SATA 6 Gbps  <b>注意</b> SATA 6 Gbps 硬盘架向后兼容 SATA 3 Gbps 硬盘。
硬盘兼容性	3.5 英寸硬盘架： <ul style="list-style-type: none"> <li>• 3.5 英寸 SATA 机械硬盘</li> <li>• 2.5 英寸 SATA 机械硬盘</li> <li>• 2.5 英寸 SATA 固态硬盘</li> </ul>
M.2 SSD 插槽	2 x SATA 6 Gbps
M.2 SSD 外形规格	2280
SSD 缓存加速支持	3.5 英寸硬盘架：1 至 4
热插拔	支持
网络	
2.5 Gb 以太网端口	2 x 2.5 GbE RJ45  <b>注意</b> 2.5 Gb 以太网端口可提供 3 种网络连接速度：2.5G、1G、100M 和 10M。
外部 I/O 端口和扩展插槽	
USB 端口	<ul style="list-style-type: none"> <li>• 2 x USB 2.0 A 型</li> <li>• 2 x USB 3.2 Gen 1 A 型</li> </ul>
界面	
按钮	<ul style="list-style-type: none"> <li>• 电源</li> <li>• 重置</li> </ul>



组件	TS-451DeU-2G
尺寸	
外形规格	1U 机架式
尺寸 (高 x 宽 x 深)	43.3 x 430 x 294.9 mm (1.74 x 16.92 x 11.61 英寸)
净重	4.15 kg (9.15 磅)
导轨兼容性	RAIL-B02  <b>注意</b> 导轨套件未随 NAS 提供，必须单独购买。有关详细信息，请联系授权经销商或转到 <a href="https://shop.qnap.com">https://shop.qnap.com</a> 。
其他	
电源单元	100W, 100-240V AC, 50/60 Hz
系统电池	CR2032 锂电池 (3V, 225 mAh)
噪声声级	21.6 dB(A)  <b>注意</b> 噪声声级在距 NAS 一米以内的旁观者位置测得。测试 NAS 安装了最大数量的硬盘以低速运行。
风扇	系统: 3 x 40 mm, 12V DC 风扇
工作温度	0°C 至 40°C (32 至 104°F)
相对湿度	<ul style="list-style-type: none"> <li>无冷凝相对湿度: 5% 至 95%</li> <li>湿球温度: 27°C (80.6°F)</li> </ul>
安全锁孔	Kensington 安全锁孔

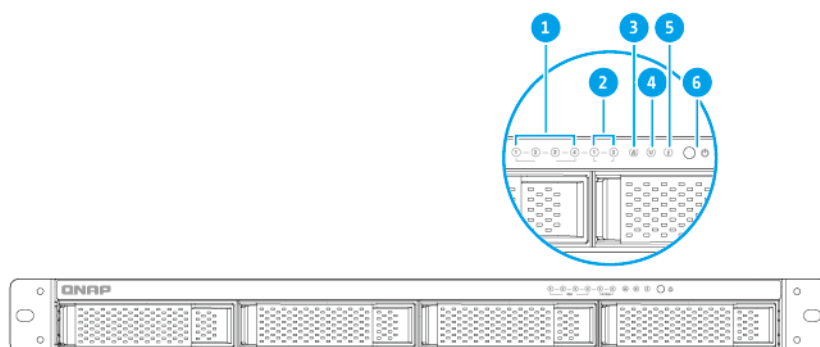
## 包装内容

项目	数量
TS-451DeU	1

项目	数量
电源线	1
以太网线	2 x CAT5e 线缆
适用于 3.5 英寸硬盘的螺丝	16
适用于 2.5 英寸硬盘的螺丝	12
M.2 SSD 散热片	2
手柄套件	<ul style="list-style-type: none"> <li>• 2 x 手柄</li> <li>• 2 x 角码</li> <li>• 8 x 螺丝</li> </ul>
快速安装指南 (QIG)	1

## 组件

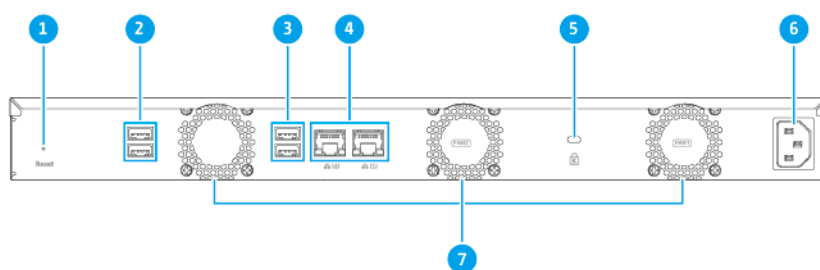
### 前面板



编号	组件	编号	组件
1	硬盘 LED	4	USB 扩展单元 LED

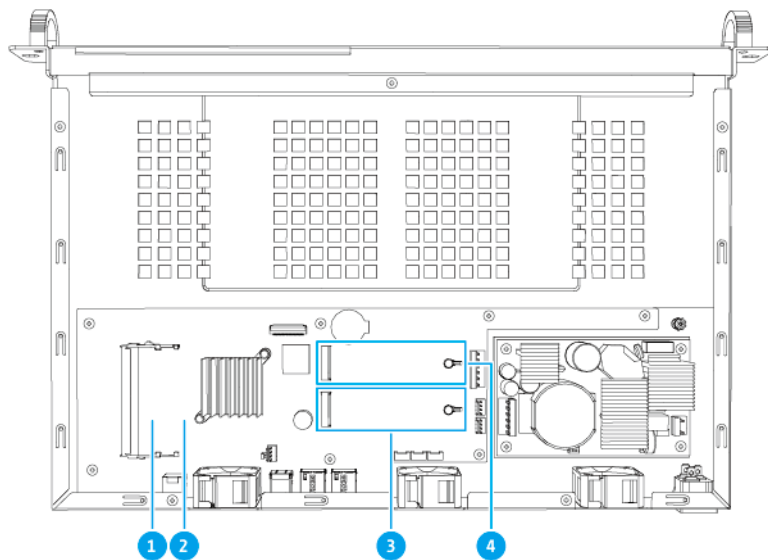
编号	组件	编号	组件
2	M.2 SSD LED	5	状态 LED
3	LAN LED	6	电源按钮

## 后面板



编号	组件	编号	组件
1	重置按钮	5	Kensington 安全锁孔
2	USB 2.0 A 型端口	6	电源输入
3	USB 3.2 Gen 1 A 型端口	7	系统风扇
4	2.5 Gb 以太网端口	-	-

## 系统主板



### 注意

图像不含外壳盖。

编号	组件	编号	组件
1	内存插槽 2	3	M.2 SSD 插槽 1
2	内存插槽 1	4	M.2 SSD 插槽 2

## 硬盘编号



## 安装要求

类别	项目
环境	<ul style="list-style-type: none"> <li>• 室温：0°C 至 40°C (32 至 104°F)</li> <li>• 无冷凝相对湿度：5% 至 95%</li> <li>• 湿球温度：27°C (80.6°F)</li> <li>• 平坦的防静电表面，无直射阳光、液体或化学药剂</li> </ul>
硬件和外围设备	<ul style="list-style-type: none"> <li>• 存储硬盘 有关兼容硬盘型号的列表，请转到 <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a>。</li> <li>• 网线</li> </ul>
工具	<ul style="list-style-type: none"> <li>• 1 号或 2 号十字螺丝刀</li> <li>• 防静电腕带</li> </ul>

## 设置 NAS

### 重要

在设置 NAS 或安装 NAS 组件之前，请仔细阅读所有安全要求和信息。

1. 将 NAS 设备置于符合要求的环境中。  
有关详细信息，请参见 [安装要求](#)。

2. 将 NAS 安装在机架上。  
有关详细信息，请参见[导轨套件](#)和[安装手柄](#)。
3. 安装硬盘。  
有关详细信息，请参见以下主题：
  - [在 3.5 英寸托盘上安装 3.5 英寸硬盘](#)
  - [在 3.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘](#)
  - [安装 M.2 固态硬盘](#)
4. 将 NAS 连接到网络。
5. 可选: 连接扩展单元。  
有关详细信息，请参见 [连接 USB 扩展单元](#)
6. 连接电源线和所有适用的线缆。
7. 启动 NAS 电源。
8. 安装 QTS。  
有关详细信息，请参见 [QTS 安装](#)。
9. 登录 QTS。

## 3. 安装和配置

本章提供了具体的硬件和固件安装与配置步骤。

### 硬件安装

本节提供有关安装硬盘、内存模块、手柄和增加扩展单元的信息。

### 取下外壳盖

#### 警告

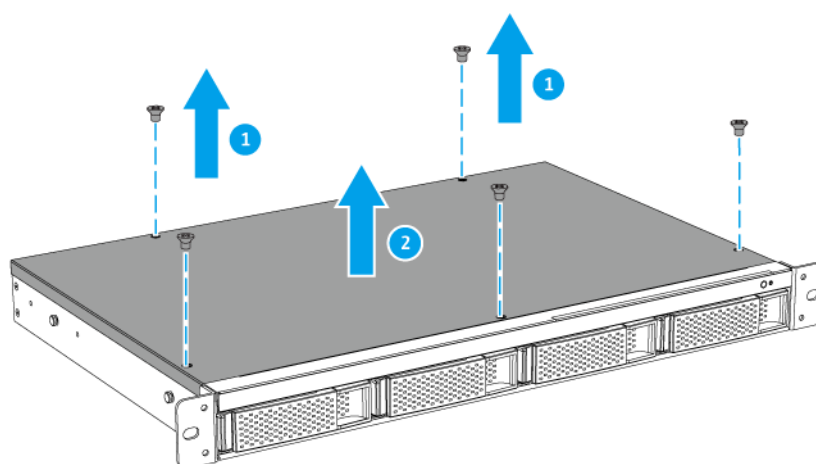


**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。



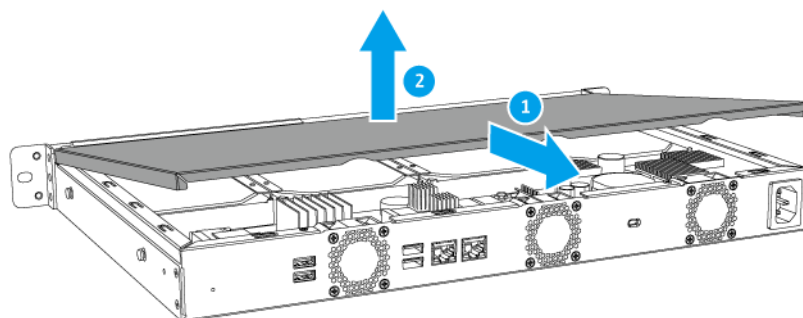
**运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。
  - a. 松开螺丝。



- b. 将盖板向后滑动。

- c. 从 NAS 上提起盖板。



## 安装外壳盖

### 警告



**转动风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

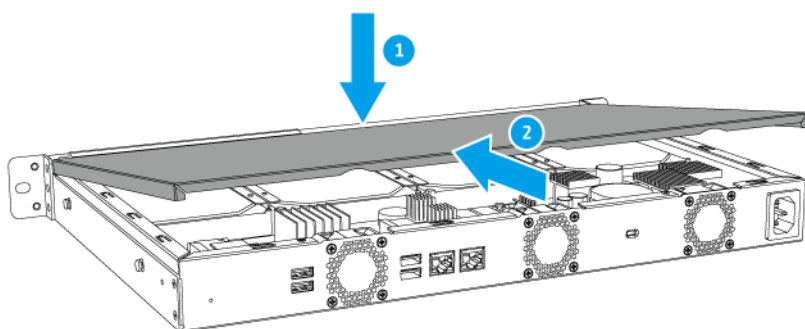


**运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

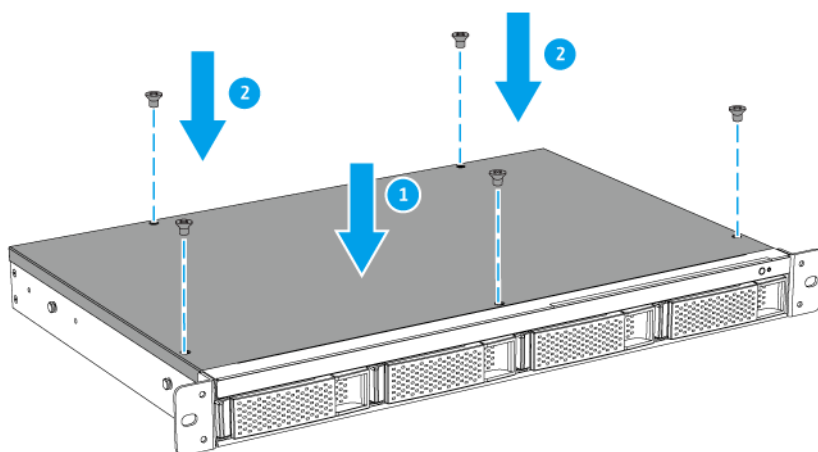
1. 将盖板放在 NAS 上。



2. 将盖板向前滑动。



3. 拧紧螺丝。



4. 连接所有线缆和外接部件。
5. 将电源线连接到插座。
6. 启动 NAS 电源。

## 硬盘安装

TS-451DeU 兼容 3.5 英寸和 2.5 英寸硬盘以及 2.5 英寸固态硬盘和 M.2 固态硬盘。

### 在 3.5 英寸托盘上安装 3.5 英寸硬盘

有关兼容硬盘型号的列表，请转到 <https://www.qnap.com/compatibility>。

**警告**

- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。

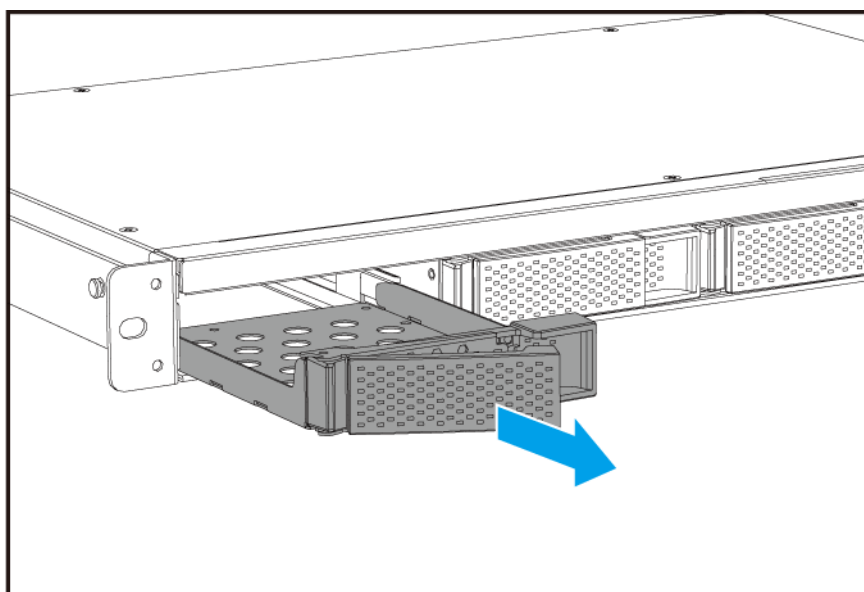


**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。



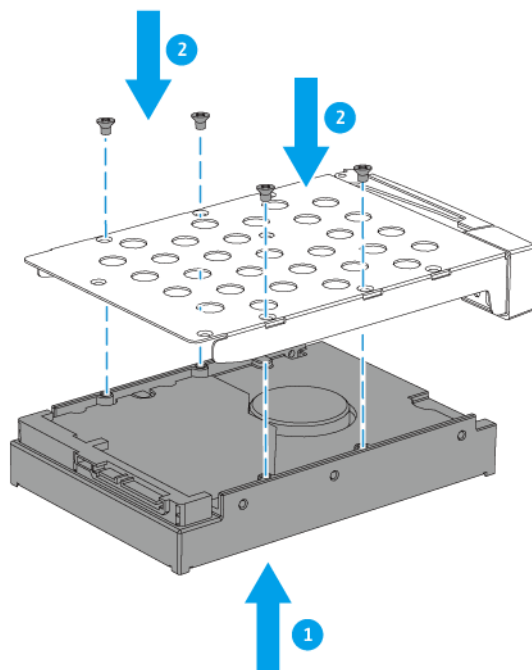
**运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 向外拉动托盘手柄。
  - b. 拉出托盘。



3. 将硬盘安装到托盘上。
  - a. 将硬盘放在托盘上，使硬盘底部的孔与托盘底部的孔对齐。

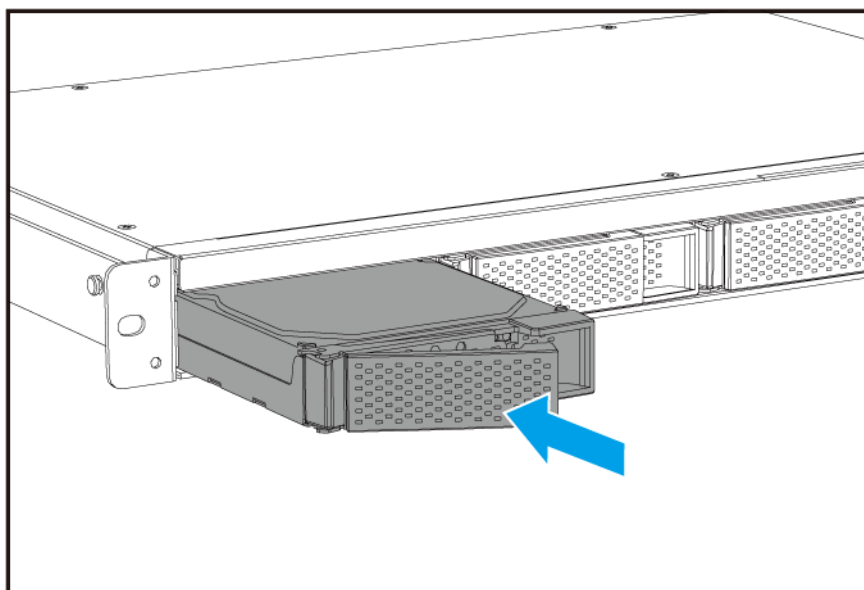
**b. 安装螺丝。**



**4. 将托盘装入硬盘架。**

- a. 将托盘插入硬盘架。**
- b. 将托盘滑入硬盘架。**

- c. 推动手柄。
- d. 锁住托盘。



- 5. 启动 NAS 电源。

## 在 3.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘

有关兼容硬盘型号的列表，请转到 <https://www.qnap.com/compatibility>。

### 警告

- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。



**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

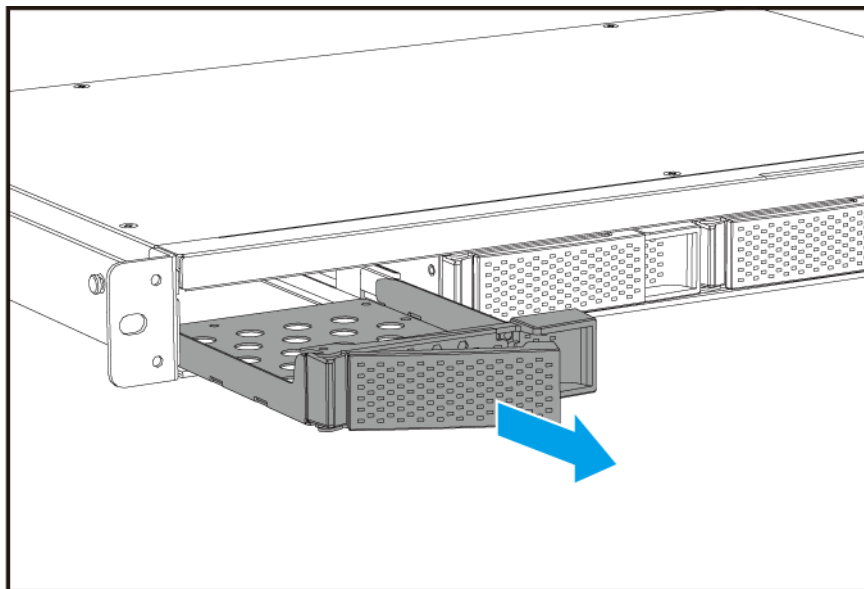


**运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

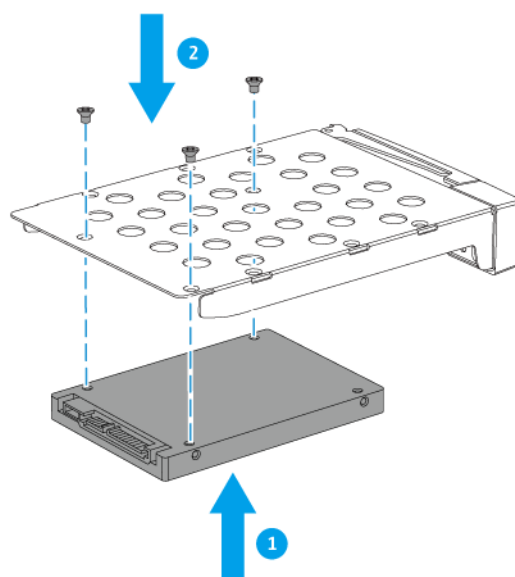
- 1. 关闭 NAS 电源。

**2. 取下硬盘托盘。**

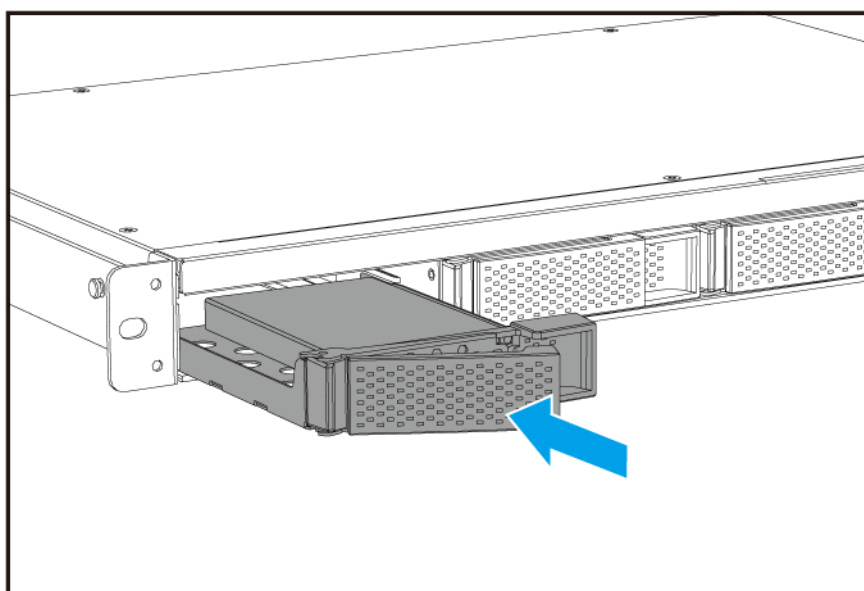
- a. 向外拉动托盘手柄。
- b. 拉出托盘。

**3. 将硬盘安装到托盘上。**

- a. 将托盘放在硬盘上，使托盘上的孔与硬盘上的孔对齐。
- b. 安装螺丝。



4. 将托盘装入硬盘架。
  - a. 将托盘插入硬盘架。
  - b. 将托盘滑入硬盘架。
  - c. 推动手柄。
  - d. 锁住托盘。



5. 启动 NAS 电源。

## 安装 M.2 固态硬盘

TS-451DeU 的**系统主板**上有两个 M.2 SATA 6 Gbps SSD 插槽。有关兼容的 M.2 SSD 的列表，请转到 <http://www.qnap.com/compatibility>。

### 警告

- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。



- **转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。



- **运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

**注意**

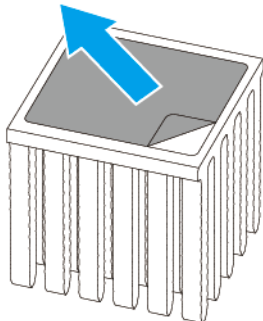
- QNAP 建议在 M.2 SSD 控制器上安装散热片，以提高散热效果并确保性能稳定。
- 安装非 QNAP 出品的散热片前，请确保该散热片的尺寸和外形合适。

1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。  
有关详细信息，请参见[取下外壳盖](#)。
5. 在 M.2 SSD 控制器上安装散热片。
  - a. 在 M.2 SSD 上找到控制器。

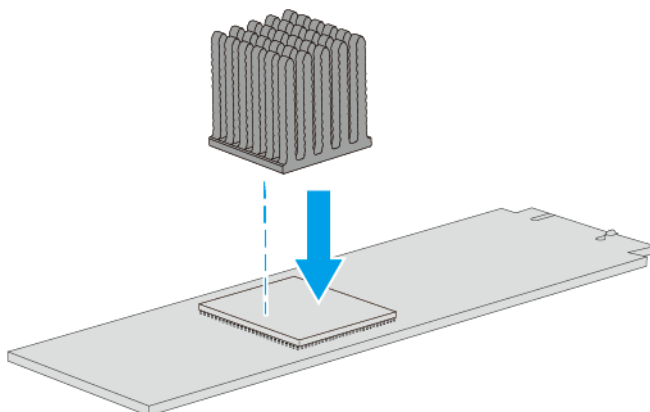
**注意**

控制器位置因 M.2 SSD 的型号和制造商而异。有关详细信息，请参阅文档或联系制造商。

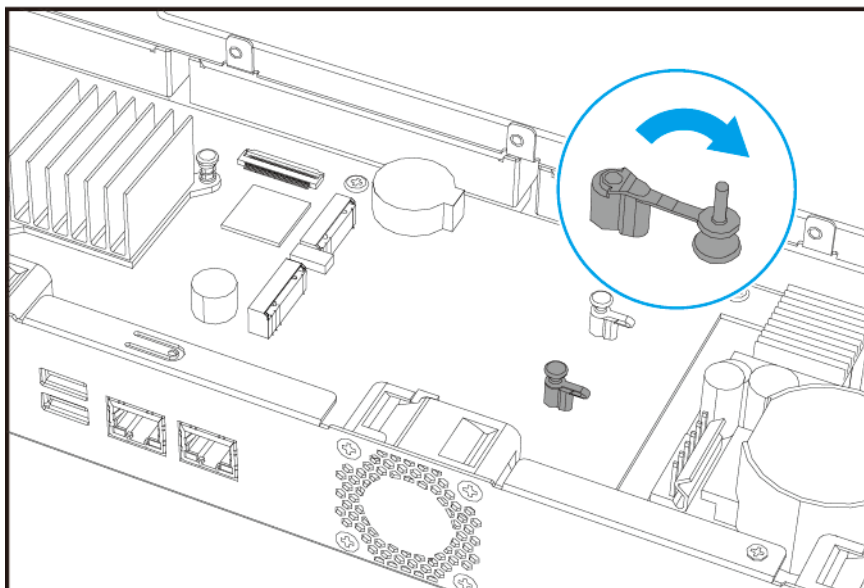
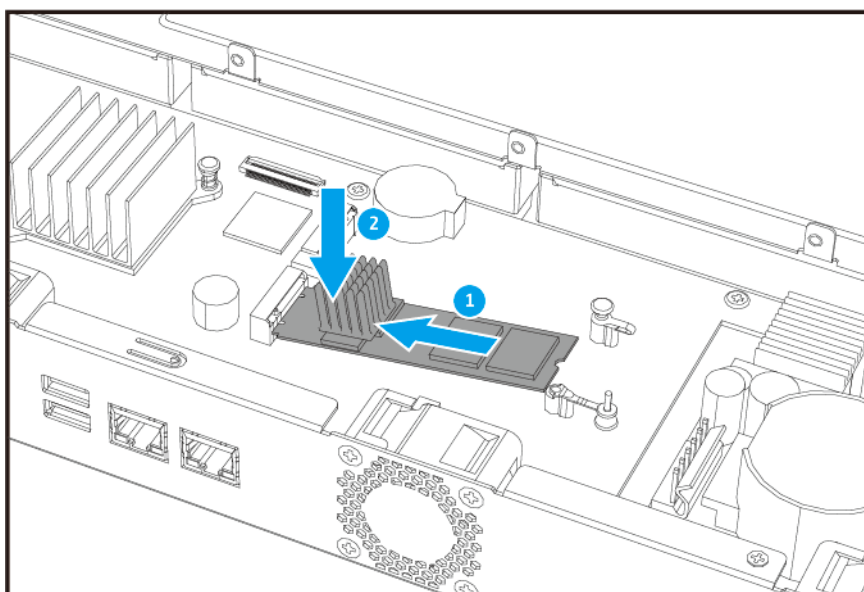
**b.** 取下散热片底部的保护膜。



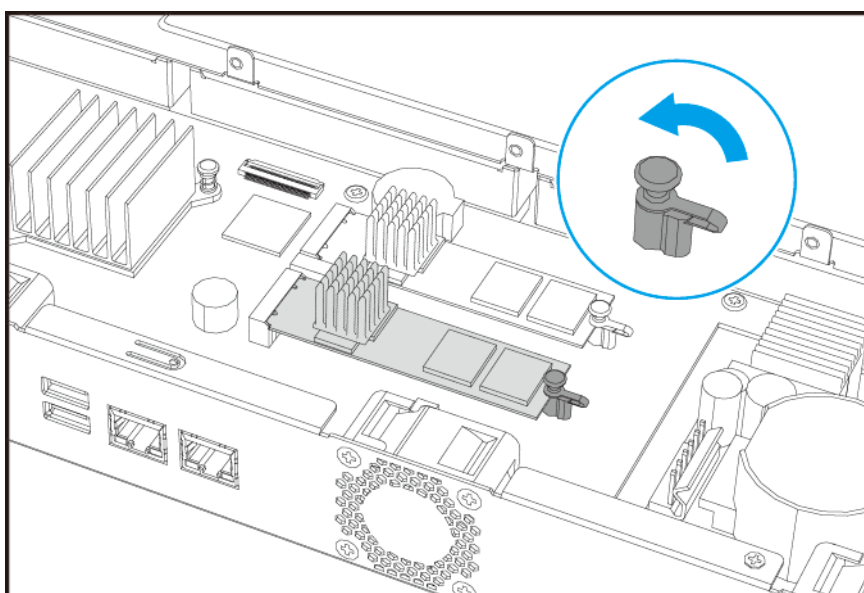
**c.** 将散热片安装到控制器上。





**6. 安装 M.2 SSD。****a. 拉开固定扣。****b. 插入 M.2 SSD。**

c. 插入固定扣，固定硬盘。



7. 将 NAS 正常放置。
8. 安装外壳盖。  
有关详细信息，请参见[安装外壳盖](#)。
9. 连接所有线缆和外接部件。
10. 将电源线连接到插座。
11. 启动 NAS 电源。

## 更换内存模块

TS-451DeU 有两个内存插槽。您可以通过升级内存模块来增加 NAS 的内存容量。

请仅使用 QNAP 内存模块，以保证系统性能和稳定性。可以从授权经销商处购买 QNAP 内存模块。

### 重要

确保两个内存模块完全相同。

### 警告

- 请执行静电放电 (ESD) 规程，以避免组件损坏。

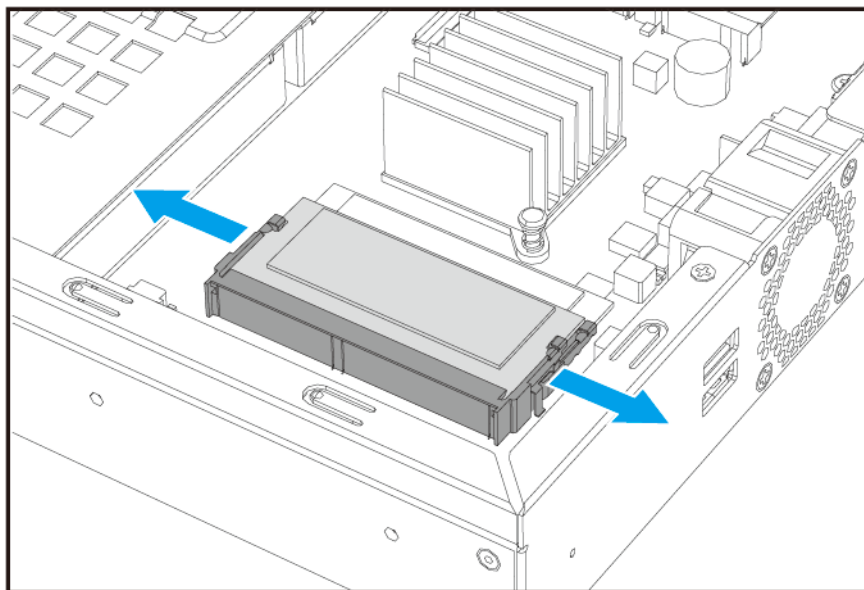


**转动风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。



**运动的其他组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。  
有关详细信息，请参见[取下外壳盖](#)。
5. 取下现有模块。
  - a. 同时向外推动固定夹以释放模块。

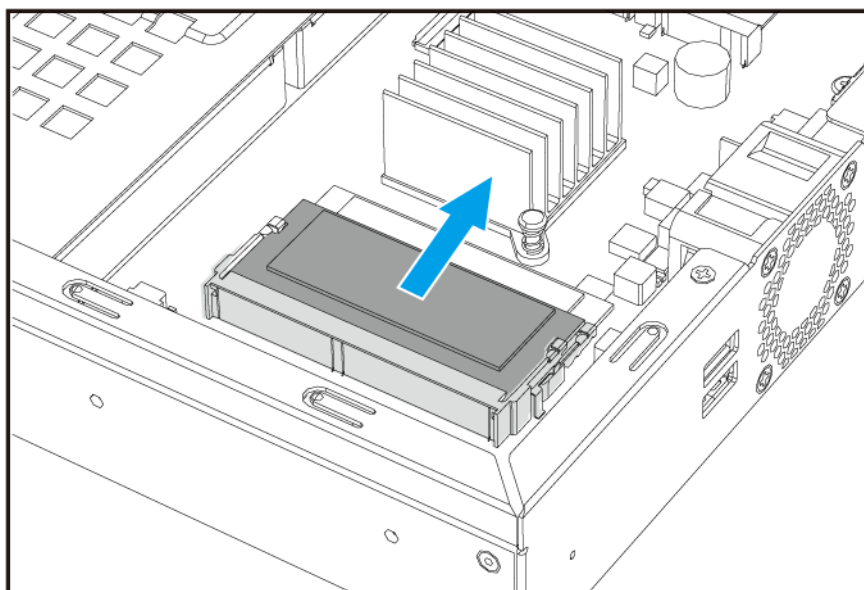


- b. 确认模块向上倾斜并已完全脱离插槽。

**警告**

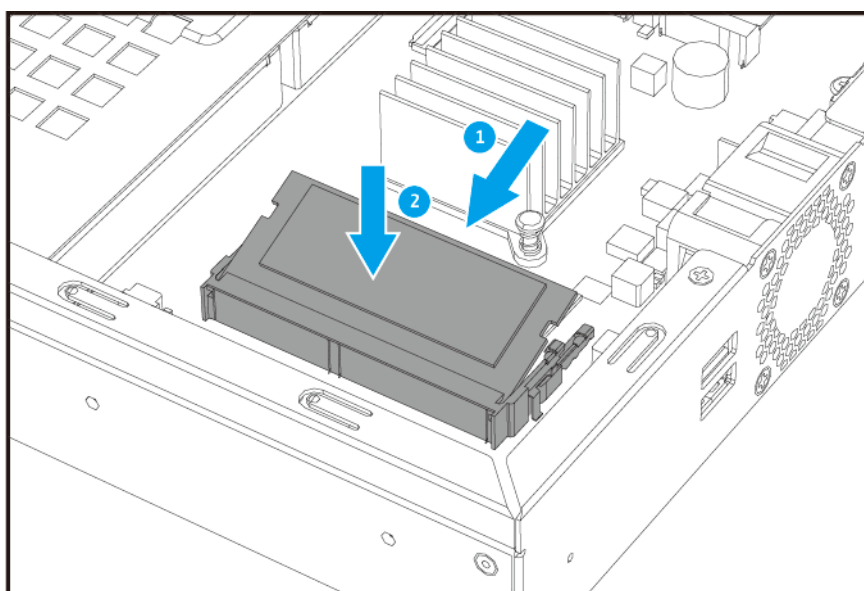
如果尝试在模块尚未完全脱离时将其取出，可能会损坏模块和主板。

- c. 握住模块边缘。



6. 安装新模块。

- a. 将凹口与插槽内的凸起对齐。
- b. 将模块插入插槽中。
- c. 确认金属接头已完全插入插槽中。
- d. 小心地向下按压模块，直到固定夹将模块锁定到位。



7. 安装外壳盖。

有关详细信息，请参见[安装外壳盖](#)。

8. 连接所有线缆和外接部件。

9. 启动 NAS 电源。
10. 确认 NAS 能够识别该模块。
  - a. 以管理员身份登录 QTS。
  - b. 转到控制台 > 系统 > 系统状态 > 硬件信息。
  - c. 检查内存总容量值。

## 连接 USB 扩展单元

TS-451DeU 支持 USB 扩展单元。有关详细信息，请参见下表。

您可以从 QNAP 或授权经销商处购买存储扩展配件。

有关详细信息，请转到 <https://shop.qnap.com/>。

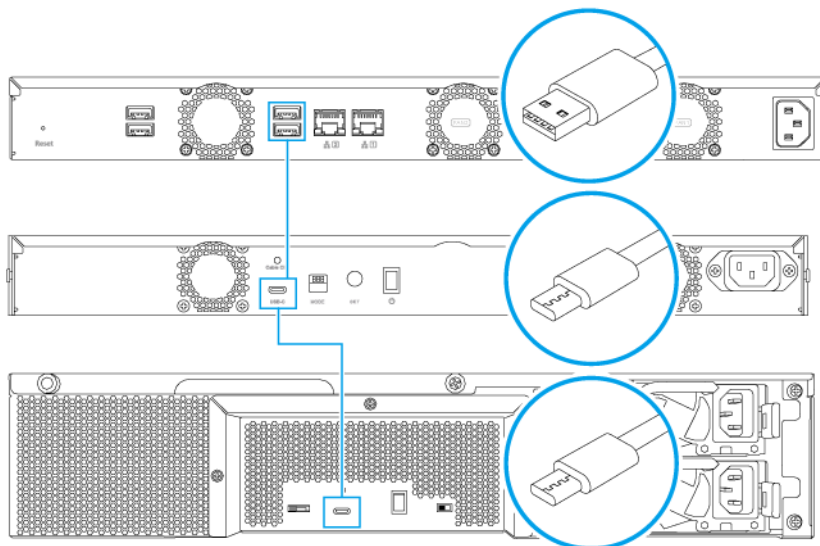
有关兼容扩展单元的列表和最大可应用扩展单元数，请转到 <http://www.qnap.com/go/compatibility-expansion>。

扩展单元型号	描述	所需配件
TR-004	<ul style="list-style-type: none"> <li>• 使用 USB 3.2 Gen 1 C 型接口</li> <li>• 支持 SATA</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 1 A 型至 C 型线缆</li> <li>• RAIL-B02</li> </ul>
TL-R1200C-RP	<ul style="list-style-type: none"> <li>• 使用 USB 3.2 Gen 2 C 型接口</li> <li>• 支持 SATA</li> </ul>	<ul style="list-style-type: none"> <li>• USB 3.2 Gen 2 A 型至 C 型线缆</li> <li>• RAIL-B02</li> </ul>

TS-451DeU 最多支持连接两个 USB 扩展单元。您可以使用以下任何一种配置：

扩展单元类型	支持的单元数
TR-004	2
TL-R1200C-RP	1

1. 将扩展单元连接到 NAS。
  - a. 将 USB 线缆连接到扩展单元上的 USB C 型端口。
  - b. 将 USB 线缆连接到 NAS 上的 USB 3.2 Gen 1 A 型端口。



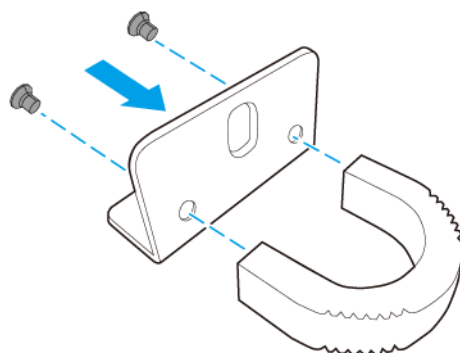
2. 为扩展单元接通电源。
3. 确认 NAS 能够识别扩展单元。
  - a. 以管理员身份登录 QTS。
  - b. 转到主菜单 > 存储与快照总管 > 概述 > 系统。
  - c. 确认扩展单元已列出。

## 安装手柄

安装手柄可以便于拿取和固定 NAS。

1. 关闭 NAS 电源。
2. 将手柄安装到角码上。
  - a. 将手柄上的开孔对准角码上的两个圆螺丝孔。

- b. 装上螺丝，将手柄固定在角码上。



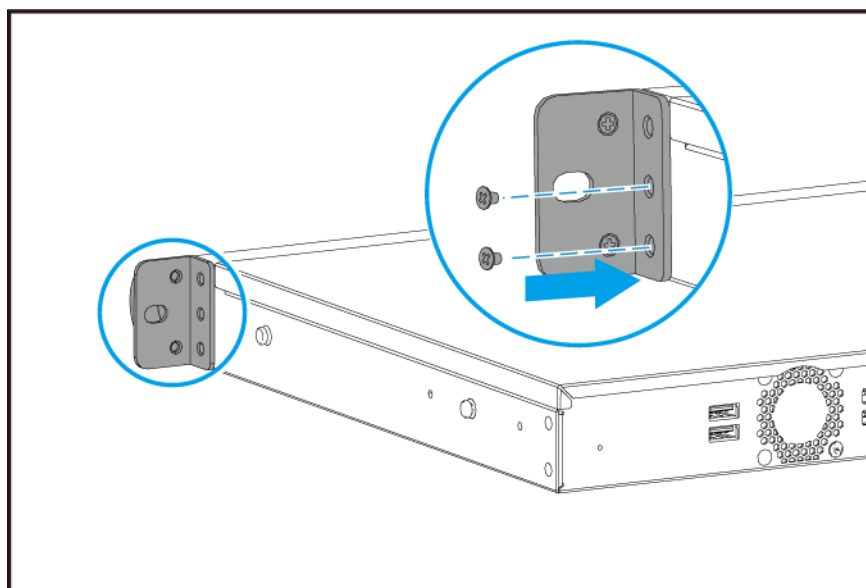
3. 将角码安装到 NAS 上。

- a. 将角码上的孔对准机箱上的孔。

**注意**

确保手柄与前面板朝向一致。

- b. 安装螺丝。



4. 将第二个手柄安装到机箱的另一侧。

5. 启动 NAS 电源。

## 导轨套件

TS-451DeU 兼容以下型号：

- RAIL-B02

导轨套件未随 NAS 提供，必须单独购买。有关详细信息，请联系授权经销商或转到 <http://shop.qnap.com>。

安装信息位于导轨套件包中。

## QTS 安装

TS-451DeU 使用 QNAP QTS 操作系统。可以使用以下任一方法安装 QTS。

方法	描述	要求
Qfinder Pro 安装 (推荐)	<p>如果 NAS 已连接到您的局域网，可以执行以下操作：</p> <ul style="list-style-type: none"> <li>• 使用 Qfinder Pro 定位 NAS。</li> <li>• 完成“智能安装指南”向导中的步骤。</li> </ul> <p>有关详细信息，请参见<a href="#">使用 Qfinder Pro 安装 QTS</a>。</p>	<ul style="list-style-type: none"> <li>• 计算机</li> <li>• 网线</li> <li>• Qfinder Pro 安装程序</li> </ul>
云安装	<p>如果 NAS 已连接到 Internet，可以执行以下操作：</p> <ul style="list-style-type: none"> <li>• 扫描 NAS 上的二维码。</li> <li>• 指定 Cloud Key。</li> <li>• 登录您的 myQNAPcloud 帐户。</li> <li>• 完成“智能安装指南”向导中的步骤。</li> </ul> <p>有关详细信息，请参见<a href="#">使用 Cloud Key 安装 QTS</a>。</p>	<ul style="list-style-type: none"> <li>• 计算机或移动设备</li> <li>• 网线</li> <li>• myQNAPcloud 帐户</li> <li>• CloudKey</li> </ul>

## 使用 Qfinder Pro 安装 QTS

### 警告

安装 QTS 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。

1. 启动 NAS 电源。
2. 将 NAS 连接到您的局域网中。
3. 在已连接到同一局域网的计算机上运行 Qfinder Pro。

### 注意

要下载 Qfinder Pro，请转到 <https://www.qnap.com/utilities>。



4. 在列表中找到 NAS，然后双击名称或 IP 地址。  
智能安装指南将在默认 Web 浏览器中打开。
5. 单击启动智能安装指南。
6. 指定以下信息。
  - **NAS 名称**：指定 1 至 14 个字符的名称。名称支持字母（A 到 Z、a 到 z）、数字（0 到 9）和连字符 (-)，但不能以连字符结尾。
  - **密码**：指定 1 至 64 个字符的管理员密码。密码支持所有 ASCII 字符。
7. 单击下一步。
8. 指定时区、日期和时间。

**提示**

QNAP 建议连接到 NTP 服务器，以确保 NAS 遵循协调世界时 (UTC) 标准。

9. 单击下一步。
10. 选择自动获取 IP 地址(DHCP)。
11. 单击下一步。
12. 选择将用于访问 NAS 上共享文件夹的设备类型。
13. 单击下一步。
14. 检查设置。
15. 单击应用。  
此时会出现确认消息。

**警告**

单击确认后，将先删除硬盘上的所有数据，然后再安装 QTS。

16. 单击确认。  
QTS 即安装完毕。

## 使用 Cloud Key 安装 QTS

**警告**

安装 QTS 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。

1. 启动 NAS 电源。
2. 将 NAS 连接到 Internet。

3. 使用以下方法之一转到“QNAP Cloud 安装”页面：

- 在您的计算机上，转到 <http://install.qnap.com/>。
- 使用移动设备扫描 NAS 上的二维码。

网页中会列出本地网络上所有尚未初始化的 QNAP NAS 设备。

4. 从列表中找到您的 NAS，然后单击**初始化**。

**注意**

如果未列出您的 NAS，请按网页上的说明指定 NAS 上的 Cloud Key。

安装向导将在默认 Web 浏览器中打开。

5. 创建帐户或登录 myQNAPcloud。

**注意**

创建帐户后，您必须返回此页面才能完成安装。

6. 为 NAS 指定 myQNAPcloud 设备名称。

**注意**

- myQNAPcloud 设备名称用于远程访问 NAS。
- 因安全原因，在您的 NAS 上初始化 myQNAPcloud Link 远程连接服务后，会将其禁用。通过 LAN 连接到 QTS，然后安装 myQNAPcloud Link 可启用此服务。

7. 单击**下一步**。

**智能安装指南**将在默认 Web 浏览器中打开。

8. 单击**启动智能安装指南**。

9. 指定以下信息。

- **NAS 名称**：指定 1 至 14 个字符的名称。名称支持字母（A 到 Z、a 到 z）、数字（0 到 9）和连字符（-），但不能以连字符结尾。
- **密码**：指定 1 至 64 个字符的管理员密码。密码支持所有 ASCII 字符。

10. 单击**下一步**。

11. 指定时区、日期和时间。

**提示**

QNAP 建议连接到 NTP 服务器，以确保 NAS 遵循协调世界时 (UTC) 标准。

12. 单击**下一步**。

13. 选择**自动获取 IP 地址(DHCP)**。

14. 单击**下一步**。
15. 选择将用于访问 NAS 上共享文件夹的设备类型。
16. 单击**下一步**。
17. 检查设置。
18. 单击**应用**。  
此时会出现确认消息。

**警告**

单击**确认**后，将先删除硬盘上的所有数据，然后再安装 QTS。

19. 单击**确认**。  
QTS 即安装完毕。

## 4. 基本操作

本章介绍 NAS 的基本操作。

### 电源按钮

操作	用户操作	结果
启动电源	按下此按钮一次。	NAS 开机。
关闭电源	按住此按钮 1.5 秒钟。	NAS 关机。
强制关机	按住此按钮 5 秒钟。	NAS 关闭。  <b>重要</b> 仅当 NAS 无响应时才能使用此方法。

### 重置按钮

**重要**

要保护您的设备免受暴力破解攻击，QNAP 建议在系统重置后禁用默认 admin 帐户。要禁用默认 admin 帐户，您必须先创建新管理员帐户，注销 admin 帐户，然后使用新帐户登录。

操作	用户操作	结果
基本系统重置	按住此按钮 3 秒钟。	<p>以下设置将重置为默认值：</p> <ul style="list-style-type: none"> <li>• admin 帐户将自动启用。</li> <li>• 系统管理员密码：有关默认密码的详细信息，请参见此<a href="#">常见问题</a>。</li> <li>• TCP/IP 配置： <ul style="list-style-type: none"> <li>• 通过 DHCP 自动获取 IP 地址设置</li> <li>• 禁用巨型帧</li> <li>• 如果启用端口中继（仅限多局域网型号），则端口中继模式将重置为“主动备份(故障转移)”。</li> </ul> </li> <li>• 系统端口：8080（系统服务端口）</li> <li>• 安全等级：低（允许所有连接）</li> <li>• LCD 面板密码：（空白）</li> <li>• VLAN：禁用</li> </ul>
高级系统重置	按住此按钮 15 秒钟。	<p>恢复默认出厂设置。</p> <ul style="list-style-type: none"> <li>• 要在高级系统重置后检索旧数据，请在 NAS 上重新创建先前的文件夹结构。</li> </ul>

## LED

开启设备电源后，LED 指示灯会指示系统状态和相关信息。以下 LED 信息仅适用于硬盘已正确安装并且设备已连接到网络或主机的情况。

有关 LED 位置的详细信息，请参见[组件](#)。

LED	状态	描述
系统状态	红绿交替闪烁，间隔 0.5 秒	<ul style="list-style-type: none"> <li>• 硬盘正在格式化。</li> <li>• 设备正在初始化。</li> <li>• 操作系统正在更新。</li> <li>• RAID 正在重建。</li> <li>• 正在进行在线 RAID 容量扩展。</li> <li>• 正在进行在线 RAID 级别迁移。</li> <li>• 固件正在更新。</li> </ul> <div style="background-color: #fff9c4; padding: 10px; margin-top: 10px;"> <p><b>重要</b> 更新固件时，请勿拔下电源线或 USB 缆线，也不要强行退出应用程序。</p> </div>
	红色	<ul style="list-style-type: none"> <li>• 硬盘无效。</li> <li>• 磁盘卷的容量已满。</li> <li>• 磁盘卷的容量即将被占满。</li> <li>• 系统风扇故障。</li> <li>• 访问（读/写）数据时出错。</li> <li>• 在硬盘上检测到坏扇区。</li> <li>• 设备处于降级只读模式（RAID 5 或 RAID 6 中的两个成员硬盘出现故障，但仍可读取数据）。</li> <li>• 硬件自检发生错误。</li> <li>• 系统温度超过阈值。</li> </ul>
	闪烁红色，间隔 0.5 秒	NAS 处于降级模式（RAID 1 中的一个成员硬盘出现故障）。
	闪烁绿色，间隔 0.5 秒	<ul style="list-style-type: none"> <li>• 设备正在启动。</li> <li>• 设备未配置。</li> <li>• 硬盘未格式化。</li> </ul>
	闪烁绿色，间隔 2 秒	所有硬盘都处于待机模式。
	闪烁绿色，间隔 1 秒	设备未配置。

LED	状态	描述
系统状态	绿色	设备已就绪。
	熄灭	<ul style="list-style-type: none"> <li>• 所有硬盘都处于待机模式。</li> <li>• 设备已关机。</li> </ul>
LAN	橙色	另一台设备访问数据期间发生了读/写错误。
	闪烁橙色	正在从网络访问设备。
硬盘	闪烁红色	正在访问数据，但在此过程中发生读/写错误。
	红色	<ul style="list-style-type: none"> <li>• 发生硬盘读/写错误。</li> <li>• 硬盘温度超过阈值。</li> </ul>
	闪烁绿色	<ul style="list-style-type: none"> <li>• 正在访问数据。</li> <li>• 正在复制数据。</li> </ul>
	绿色	<ul style="list-style-type: none"> <li>• 硬盘可供访问。</li> <li>• 设备已开机。</li> </ul>
	熄灭	未检测到硬盘。
M.2 SSD	闪烁红色	正在定位硬盘。
	红色	发生硬盘读/写错误。
	闪烁绿色	正在访问数据。
	绿色	硬盘可供访问。
	熄灭	未检测到硬盘。
USB 扩展单元	蓝色	QNAP USB 外部存储设备已连接到 USB 端口。
	熄灭	未连接任何 USB 外部存储设备。

## 警告音

时长	频率	描述
短提示音 (0.5 秒)	1	<ul style="list-style-type: none"> <li>• NAS 正在启动。</li> <li>• NAS 正在关闭 (软件关闭)。</li> <li>• 用户已按下“重置”按钮。</li> <li>• 操作系统已更新。</li> </ul>
	3	用户尝试从前面的 USB 端口将 NAS 数据复制到外部存储设备，但无法复制数据。
长提示音 (1.5 秒)	3 (每 5 分钟)	系统风扇故障。
	2	<ul style="list-style-type: none"> <li>• 磁盘卷的容量即将被占满。</li> <li>• 磁盘卷的容量已满。</li> <li>• 硬盘处于降级模式。</li> <li>• 用户已启动硬盘重建过程。</li> <li>• 插入或抽出硬盘。</li> </ul>
	1	<ul style="list-style-type: none"> <li>• NAS 已通过强制关闭关机 (硬件关闭)。</li> <li>• NAS 已成功开机并准备就绪。</li> </ul>



## 5. 故障排除

本章介绍基本故障排除信息。

### 强制 Qfinder Pro 或 myQNAPcloud 定位 NAS

如果在 QTS 安装过程中 Qfinder Pro 或 myQNAPcloud 无法定位 NAS，则硬盘或数据可能有故障。

1. 关闭 NAS 电源。
2. 取下所有硬盘。
3. 启动 NAS 电源。
4. 使用 Qfinder Pro 或 myQNAPcloud 定位 NAS。
5. 重新插入硬盘。
6. 继续安装 QTS。

### 热插拔故障硬盘

当 RAID 1 中的一个成员硬盘出现故障时，NAS 支持热插拔硬盘。

1. 登录 QTS。
2. 转到**主菜单 > 存储空间总管 > 存储 > 磁盘/VJBOD**。
3. 找到发生故障的硬盘。
4. 准备一个与故障硬盘具有相同或更大容量的新硬盘。
5. 从 NAS 中取下故障硬盘。
6. 等待 20 秒或 NAS 发出两声提示音。
7. 从硬盘托盘中取下故障硬盘。
8. 将新硬盘插入硬盘托盘中。
9. 安装新硬盘。  
此时 NAS 会发出两声提示音。
10. 转到**主菜单 > 存储空间总管 > 存储空间**。
11. 找到包含新硬盘的卷，然后确认状态为正在重建。

### 恢复被意外移除的正常硬盘

NAS 支持独有的 RAID 恢复技术，可以从意外断开或移除的硬盘中恢复发生故障的 RAID 磁盘卷。用户可以将处于非活动状态的 RAID 1、RAID 5 或 RAID 6 卷恢复到降级模式，或将处于非活动状态的 RAID 0 和 JBOD 配置恢复为正常配置。

磁盘卷	RAID 恢复支持	被移除硬盘的最大数量
单盘	否	不适用
JBOD	是	1
RAID 0	是	1
RAID 1	是	1
RAID 5	是	2
RAID 6	是	3
RAID 10	否	不适用

## 支持和其他资源

QNAP 提供了以下资源：

资源	URL
文档	<a href="https://docs.qnap.com">https://docs.qnap.com</a>
服务门户	<a href="https://service.qnap.com">https://service.qnap.com</a>
下载	<a href="https://download.qnap.com">https://download.qnap.com</a>
社区论坛	<a href="https://forum.qnap.com">https://forum.qnap.com</a>

## 6. 术语表

### CloudKey

分配给每个 NAS 设备的唯一 8 位数代码

### myQNAPcloud Link

可用于通过 Internet 访问 NAS，而且不必配置复杂的端口转发设置

### myQNAPcloud

提供各种远程访问服务，如 DDNS 和 myQNAPcloud Link

### myQNAPcloud ID

用于注册 myQNAPcloud 帐户的电子邮件地址

### Qfinder Pro

一种 QNAP 实用工具，可用于查找和访问局域网中的 QNAP NAS 设备

### QTS

QNAP NAS 操作系统

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Version 3, 29 June 2007

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### FCC A 类声明



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显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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电力供应组 装	0	0	0	0	0	0
电池	0	0	0	0	0	0

部件名称	有毒有害物质或元素					
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