



**QNAP**

# TS-h1283XU-RP

用户指南



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# 1. 前言





## 关于本指南

本指南提供有关 QNAP TS-hx83XU-RP NAS 的信息以及有关硬件安装的分步说明。此外，还提供了有关基本操作和故障排除信息的说明。

## 受众

本文档的目标读者为存储管理员。本指南假定用户具有相关知识，并具备安装、维护和排除服务器、服务器组件和存储系统相关问题的资质。本指南还假定用户经过识别危险的培训，其中包括为防止人身伤害以及数据与财产损失用户需要采取的适当操作。

## 文档约定

符号	描述
	注释，提供默认配置设置和其他补充信息。
	重要注释，提供有关所需配置设置的信息以及其他关键信息。
	提示，提供有关执行任务或配置设置的建议或备选方法。
	警告，提供警告信息，如果忽略此信息，可能会导致潜在损失、伤害甚至死亡。

## 2. 产品概述

本章提供有关 QNAP TS-hx83XU-RP NAS 的基本信息。

### 关于 TS-hx83XU-RP

TS-hx83XU-RP 由 Intel® Xeon® E-2236 处理器提供支持，是一款在 QNAP 的最新 QuTS hero 操作系统上运行的企业 NAS。全新的 QuTS hero 操作系统优化了功能强大的 ZFS 文件系统上的 QuTS hero 应用程序。TS-hx83XU-RP 支持不同的磁盘存储配置，可以更好地满足您的虚拟化和数据存储需求。它还特有四个 Long-DIMM 内存插槽，最高可扩展至 128 GB 内存、扩展卡插槽和各种输入/输出 (I/O) 端口，具有更强的可扩展性和灵活性。

### 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>。

订购部件号	内存	电源
TS-h1283XU-RP-E2236-32G	32 GB	冗余
TS-h1283XU-RP-E2236-128G	128 GB	冗余
TS-h1283XU-RP-E2136-32G	32 GB	冗余
TS-h1283XU-RP-E2136-128G	128 GB	冗余

组件	TS-h1283XU-RP-E2236-32G	TS-h1283XU-RP-E2236-128G
处理器		
CPU	Intel® Xeon® E 系列	
核心/线程	6 核/12 线程	
架构	x86 64 位	
加密引擎	AES-NI	
内存		
预安装内存	32 GB RAM: 2 x 16 GB UDIMM DDR4 ECC	128 GB RAM: 4 x 32 GB UDIMM DDR4 ECC
内存插槽	4 x Long-DIMM DDR4	
	<b>重要</b> <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>	
最大内存	128 GB: 4 x 32 GB	
闪存	5 GB (双重引导操作系统保护)	
存储空间		
硬盘架	12 x 3.5 英寸 SATA 6 Gbps	
	<b>提示</b> 硬盘架向后兼容 SATA 3 Gbps 硬盘。	

组件	TS-h1283XU-RP-E2236-32G	TS-h1283XU-RP-E2236-128G
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 SAS 机械硬盘</li> <li>• 2.5 英寸 SATA 固态硬盘</li> </ul>	
SSD 缓存加速支持	3.5 英寸硬盘架：1 至 12	
热插拔	本设备对除 SSD 缓存硬盘外的硬盘支持热插拔。	
网络		
10 千兆位网络接口	<ul style="list-style-type: none"> <li>• 2 x 10GbE SFP+ SmartNIC</li> <li>• 2 x 10GBase-T RJ45</li> </ul>	
千兆位网络接口	4 x GbE RJ45	
外部 I/O 端口和扩展插槽		
PCIe 插槽	<ul style="list-style-type: none"> <li>• 1 x PCIe Gen 2.0 x4</li> <li>• 2 x PCIe Gen 3.0 x4</li> <li>• 1 x PCIe Gen 3.0 x8</li> </ul> <div style="border-left: 2px solid orange; padding-left: 10px; margin-top: 10px;"> <p> <b>提示</b></p> <ul style="list-style-type: none"> <li>• 两个 PCIe 插槽预装了 10GbE 网络适配器。有关详细信息，请参见<a href="#">更换内存模块</a>。</li> <li>• 有关兼容扩展卡的列表，请转到 <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a>。</li> </ul> </div>	
USB 端口	<ul style="list-style-type: none"> <li>• 2 x USB 3.2 Gen 2 10Gbps C 型</li> <li>• 4 x USB 3.2 Gen 2 10Gbps A 型</li> </ul>	
界面		
按钮	<ul style="list-style-type: none"> <li>• 电源</li> <li>• 重置</li> </ul>	
尺寸		
外形规格	2U 机架式	
尺寸（高 x 宽 x 深）	88.3 x 482 x 562 mm (3.48 x 18.98 x 22.13 英寸)	
净重	11.75 kg (25.90 磅)	
其他		
导轨兼容性	RAIL-B02 <div style="border-left: 2px solid blue; padding-left: 10px; margin-top: 10px;"> <p> <b>注</b></p> <ul style="list-style-type: none"> <li>• 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="http://shop.qnap.com">http://shop.qnap.com</a>。</li> <li>• 安装信息位于导轨套件包中。</li> </ul> </div>	
电源单元	TS-hx83XU-RP: 2 x 300W, 100-240V AC, 50/60Hz	

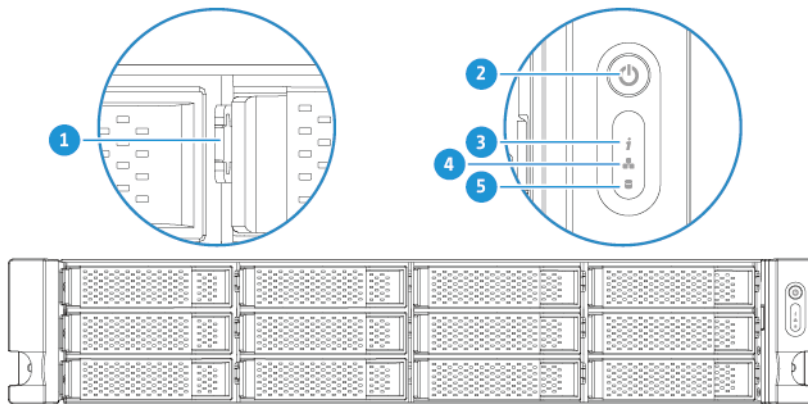
组件	TS-h1283XU-RP-E2236-32G	TS-h1283XU-RP-E2236-128G
系统电池	CR2032 锂电池 (3V, 225 mAh)	
	 <b>重要</b> 请按当地法规或电池制造商的指示处置使用过的电池。	
噪声声级	40.6 db(A)	
	 <b>注</b> 噪声声级在距 NAS 一米以内的旁观者位置测得。测试 NAS 安装了最大数量的硬盘以低速运行。	
风扇	系统: 2 x 60mm, 12V DC 风扇	
工作温度	0°C 至 40°C (32 至 104°F)	
相对湿度	<ul style="list-style-type: none"> <li>• 无冷凝相对湿度: 5% 至 95%</li> <li>• 湿球温度: 27°C (80.6°F)</li> </ul>	

## 包装内容

项目	数量
TS-hx83XU-RP	1
电源线	2
以太网线	<ul style="list-style-type: none"> <li>• 2 x 1GbE (黑色 Cat5e)</li> <li>• 2 x 10GbE (蓝色 Cat6a)</li> </ul>
适用于 2.5 英寸硬盘的螺丝	36
适用于 3.5 英寸硬盘的螺丝	48
快速安装指南 (QIG)	1

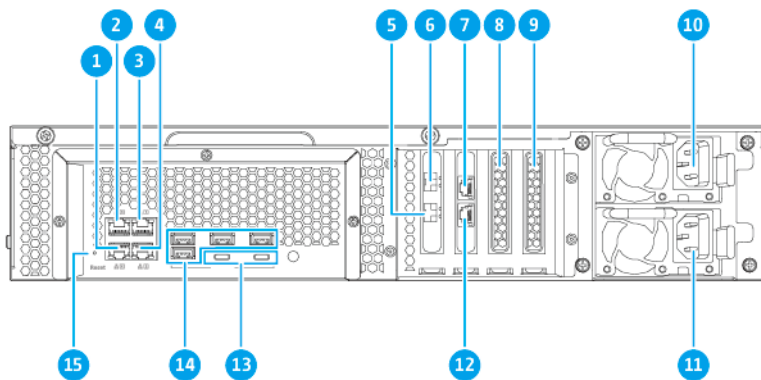
## 组件

## 前面板



编号	组件	编号	组件
1	硬盘 LED	4	LAN LED
2	电源按钮	5	扩展单元 LED
3	状态 LED	-	-

## 后面板

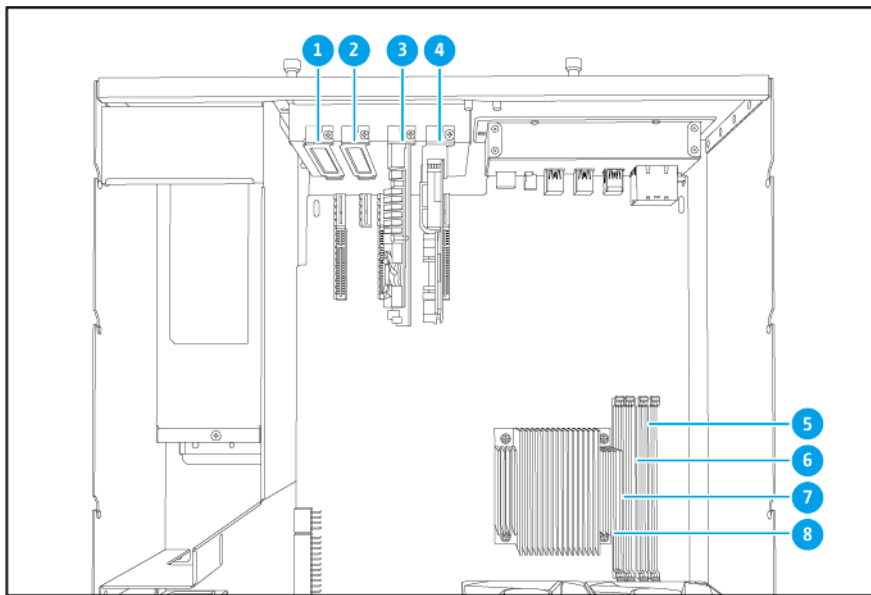




编号	组件	编号	组件
1	以太网端口 4 (GbE RJ45)	9	PCIe 2.0 x4 插槽 1
2	以太网端口 3 (GbE RJ45)	10	电源单元 1



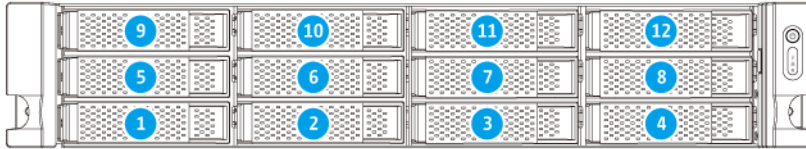
编号	组件	编号	组件
3	以太网端口 1 (GbE RJ45)	11	电源单元 2
4	以太网端口 2 (GbE RJ45)	12	以太网端口 5 (10GbaseT RJ45)
5	以太网端口 7 (10GbE SFP+)	13	USB 3.2 Gen 2 C 型端口
6	以太网端口 8 (10GbE SFP+)	14	USB 3.2 Gen 2 A 型端口
7	以太网端口 6 (10GbaseT RJ45)	15	重置按钮
8	PCIe 3.0 x8 插槽 2	-	-

## 系统主板



编号	组件	编号	组件
1	PCIe 2.0 x4 插槽 1	5	内存插槽 1 (通道 B, DIMM 2)
2	PCIe 3.0 x8 插槽 2	6	内存插槽 2 (通道 B, DIMM 1)
3	PCIe 3.0 x4 插槽 3	7	内存插槽 3 (通道 A, DIMM 2)
	 <b>注</b> 此 PCIe 插槽安装了双端口 10GBase-T RJ45 扩展卡。		
4	PCIe 3.0 x4 插槽 4	8	内存插槽 4 (通道 A, DIMM 1)
	 <b>注</b> 此 PCIe 插槽安装了双端口 10 GbE SFP+ 扩展卡。		

## 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>

## 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

- NAS 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 NAS，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。
- 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

- 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。



设备可能有一条或多条冗余电源单元 (PSU) 线。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拔下所有 PSU 线。

## 系统电池

- 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。

## 运动的部件



**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正在转动的风扇叶片。



**运动的组件：** 使您的身体各部位远离正在运动的其他组件。

## 设置 NAS



### 重要

在设置 NAS 或安装 NAS 组件之前，请仔细阅读[安全信息](#)中的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. 可选: 更换内存模块。  
有关详细信息，请参见[更换内存模块](#)。
3. 可选: 更换扩展卡。  
有关详细信息，请参见[更换扩展卡](#)。
4. 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](#)
5. 连接电源线和所有适用的线缆。
6. 启动 NAS 电源。
7. 安装 QuTS hero。  
有关详细信息，请参见 [QuTS hero 安装](#)。

**8. 登录 QuTS hero。**

### 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、内存模块和扩展卡的信息。

#### 取下外壳盖



#### 警告

•



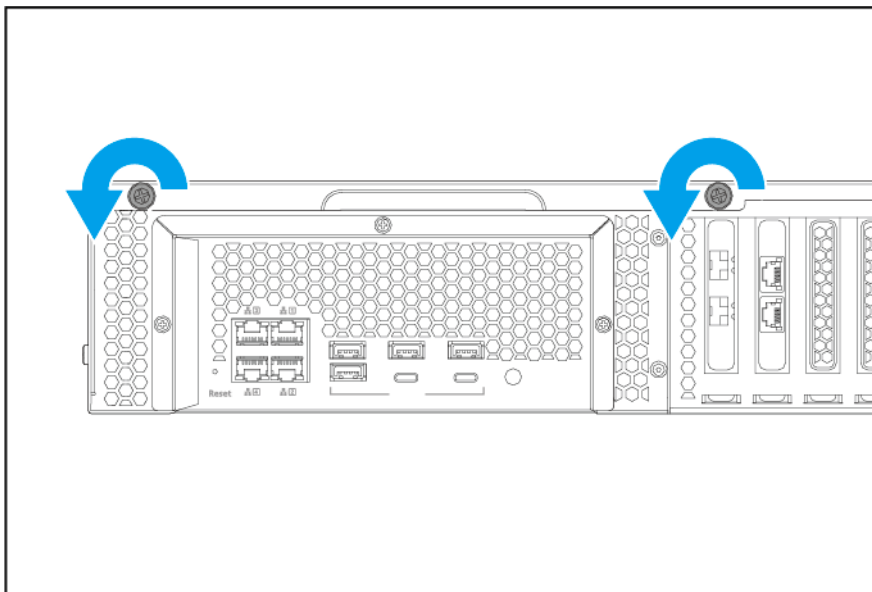
**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

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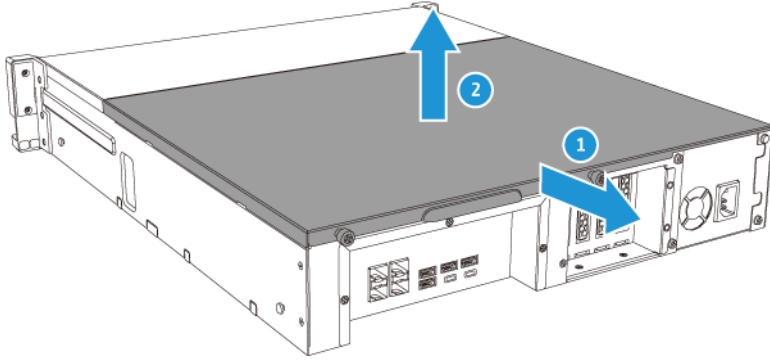
**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

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

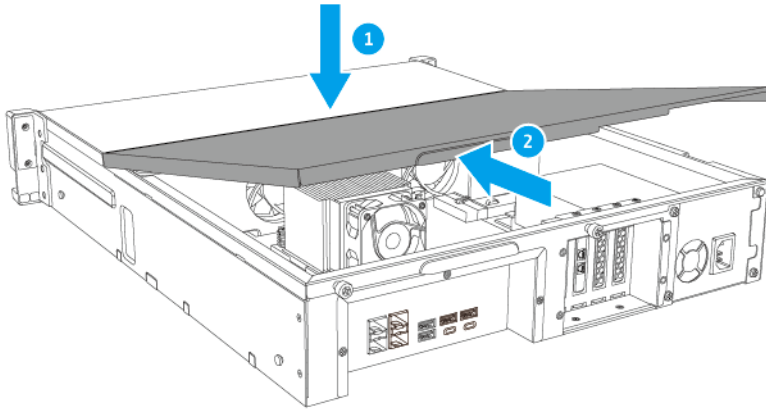


**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

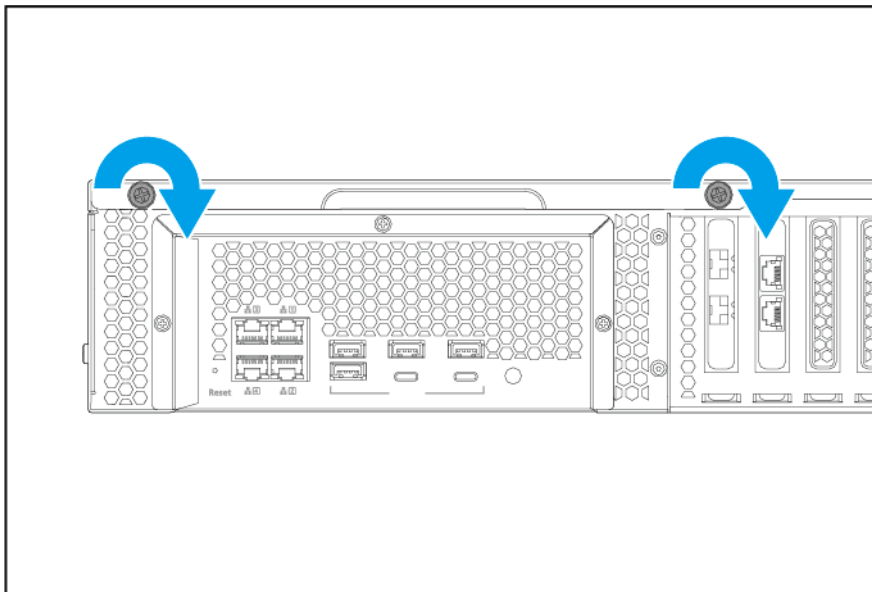


**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 将外壳盖放在 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-hx83XU-RP 兼容 3.5 英寸和 2.5 英寸硬盘以及 2.5 英寸固态硬盘。

### 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**

- 安装硬盘和安装 QuTS hero 将删除硬盘上的所有数据。

- 



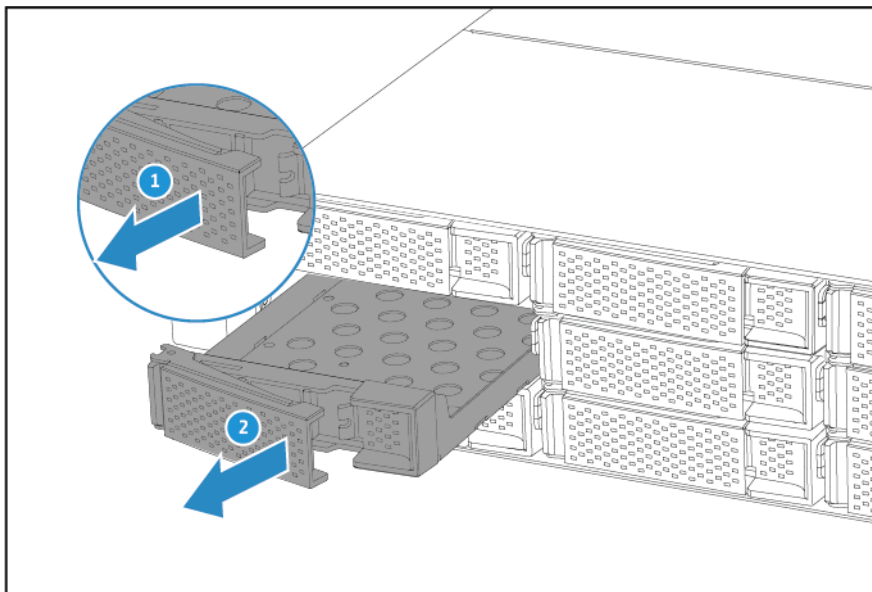
**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

- 



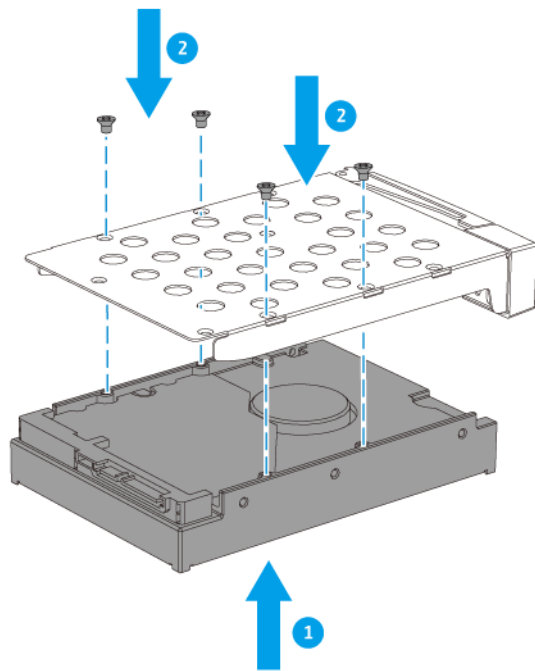
**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 拉动手柄以松开托盘。
  - b. 拉出托盘。

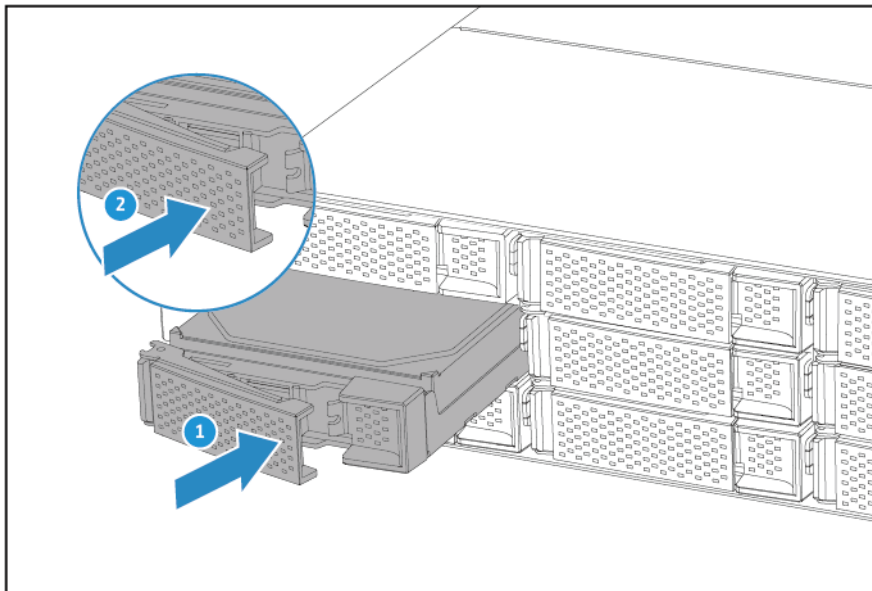


3. 将硬盘安装到托盘上。
  - a. 将硬盘放在托盘上，使硬盘底部的孔与托盘底部的孔对齐。
  - b. 安装螺丝。





4. 将托盘装入硬盘架。
  - a. 将托盘插入硬盘架。
  - b. 推动手柄。



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**

- 安装硬盘和安装 QuTS hero 将删除硬盘上的所有数据。

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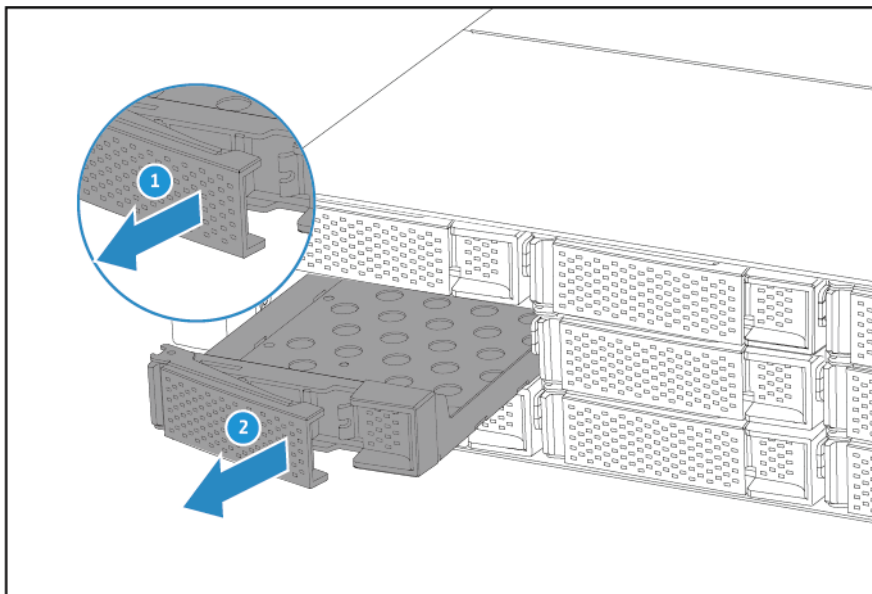
**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

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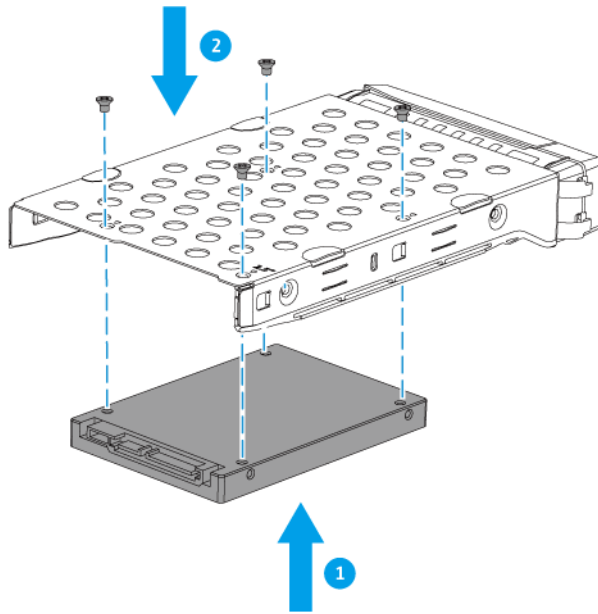


**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

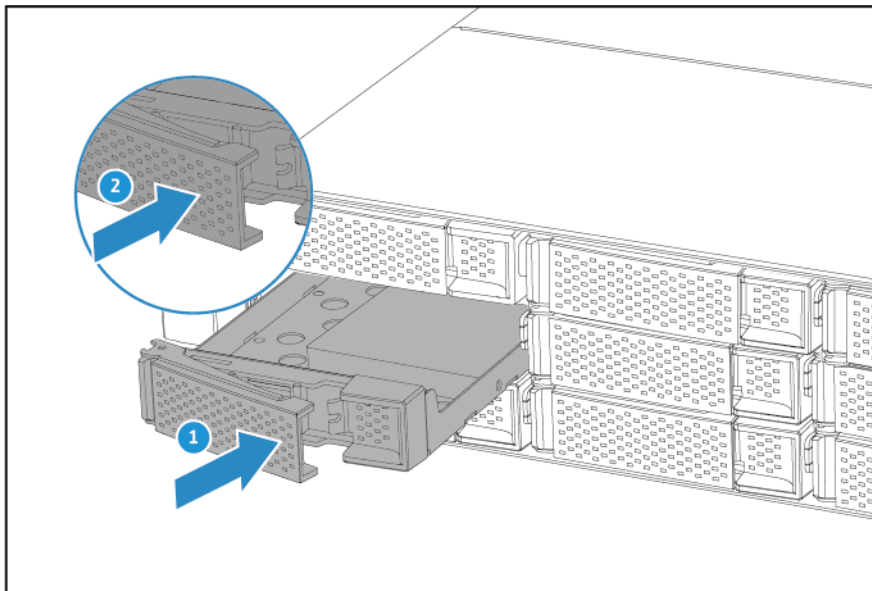
1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 拉动手柄以松开托盘。
  - b. 拉出托盘。



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. 推动手柄。



5. 启动 NAS 电源。

## 更换内存模块

NAS 有四个内存插槽。您可以通过升级内存模块来增加 NAS 的内存容量。

只能使用类型 and 容量均相同的 QNAP 模块，以保持系统性能和稳定性。可以从授权经销商处购买 QNAP 内存模块。



### 重要

QNAP 建议成对安装模块。

- 确保每对模块都完全相同。
- 按顺序在指定的插槽中安装每对模块。
- 以两个或四个为一组安装内存模块。安装两个内存模块时，请将内存安装在插槽 1 和 3 中。安装四个模块时，请将内存安装在插槽 1、3、2 和 4 中。

有关插槽编号的详细信息，请参见[系统主板](#)。



### 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。

•



**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

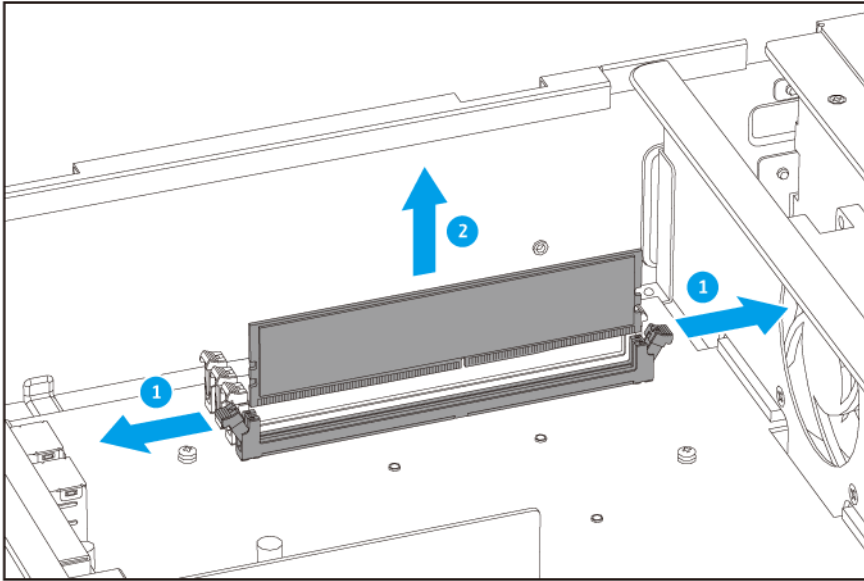
1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。  
有关详细信息，请参见[取下外壳盖](#)。
5. 取下现有模块。
  - a. 同时向外推动固定夹以释放模块。



### 警告

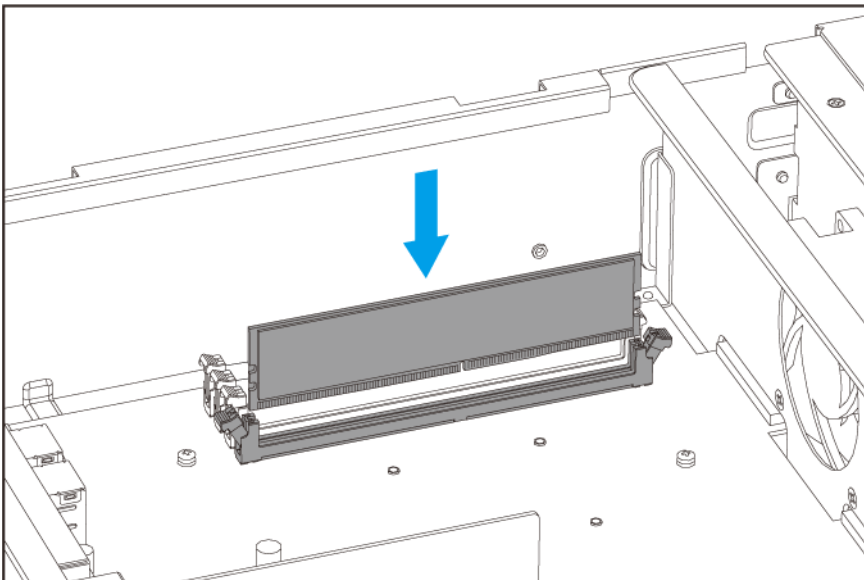
如果尝试在模块尚未完全脱离时将其取出，可能会损坏模块和主板。

- b. 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 QuTS hero。
  - 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。

## 更换扩展卡

TS-hx83XU-RP 支持精选的扩展卡，其中一些需要 QNAP 半高 PCIe 支架。从公司网站购买的 QNAP 品牌扩展卡随附有适合所有 QNAP NAS 型号的支架。



### 注

双端口 10Gbase-T RJ45 网络扩展卡预安装在 PCIe 3.0 插槽 3 上，双端口 10 GbE SFP+ 网络扩展卡预安装在 PCIe 3.0 插槽 4 上。



### 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。



**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

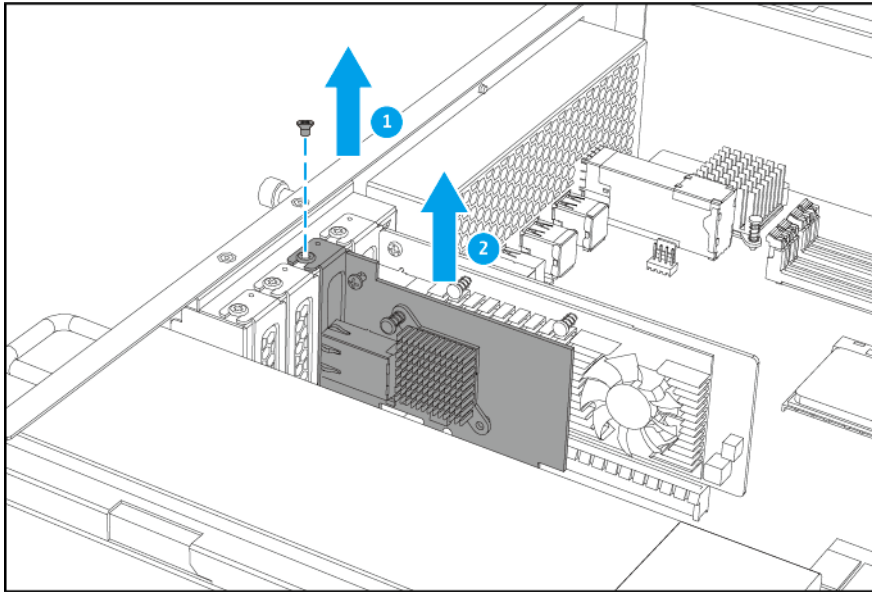
1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。  
有关详细信息，请参见[取下外壳盖](#)。



### 警告

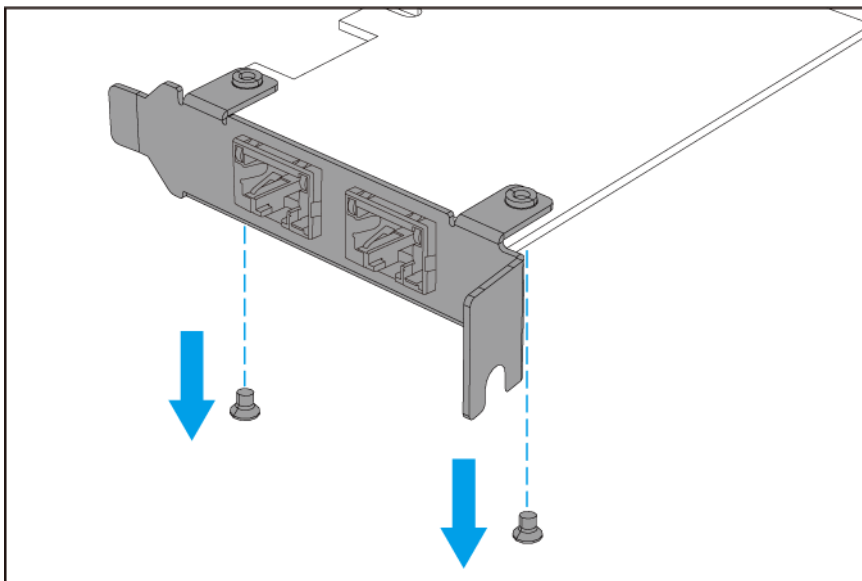
为避免潜在伤害或组件的损坏，请务必等硬盘和其他内部系统组件冷却后再触碰。

5. 取下现有扩展卡。
  - a. 取下将 PCIe 支架固定到机箱的螺丝。
  - b. 握住扩展卡边缘。
  - c. 小心将扩展卡拔出插槽。

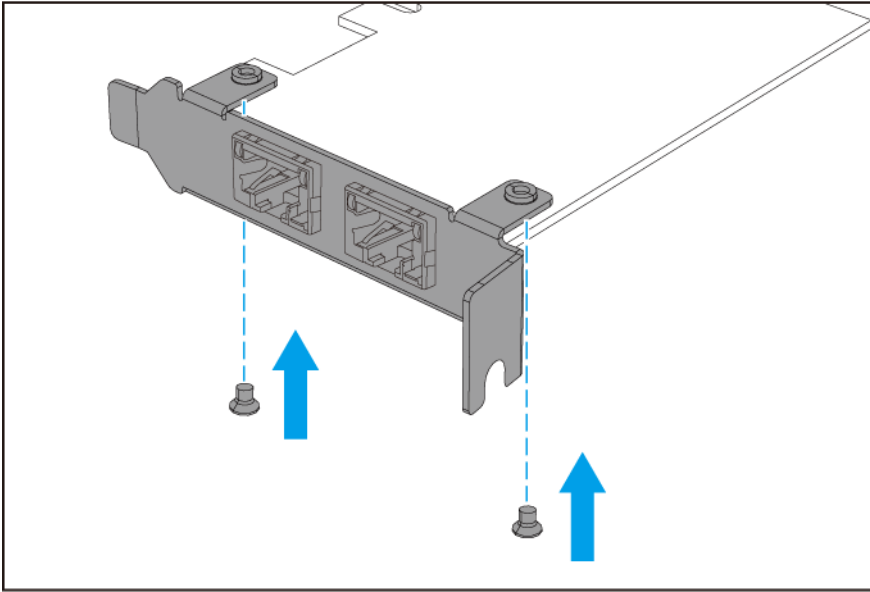


**6. 可选: 将 QNAP 支架安装到扩展卡上。**

- a. 卸下现有支架的所有螺丝。
- b. 小心地从扩展卡取下支架。

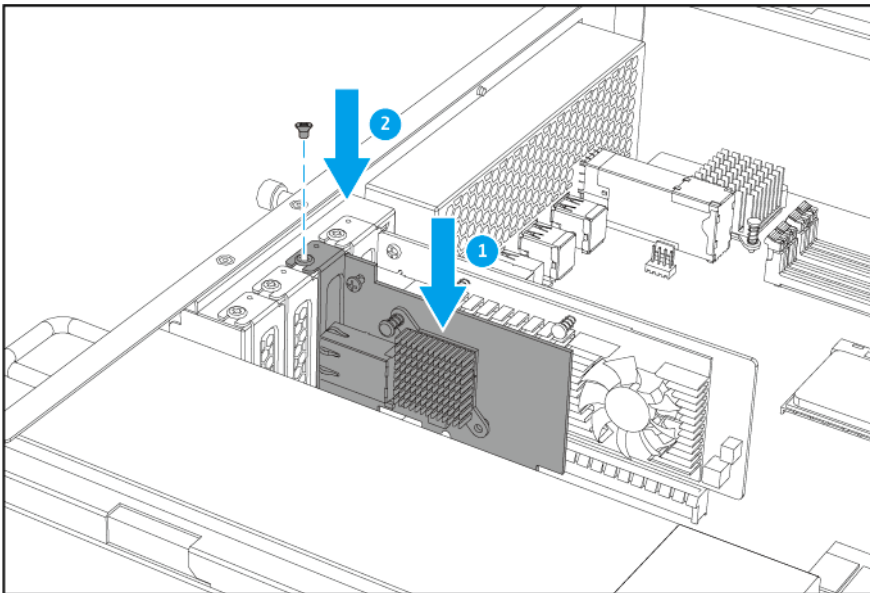


- c. 使用相同的螺丝将 QNAP 支架安装到扩展卡上。
- d. 确认支架不会移动。



**7. 可选: 安装扩展卡。**

- a. 握住卡片边缘。
- b. 将其插入插槽中。
- c. 安装螺丝。



- 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。**



## 热插拔冗余电源

配有冗余电源单元 (PSU) 的 NAS 设备支持热插拔。

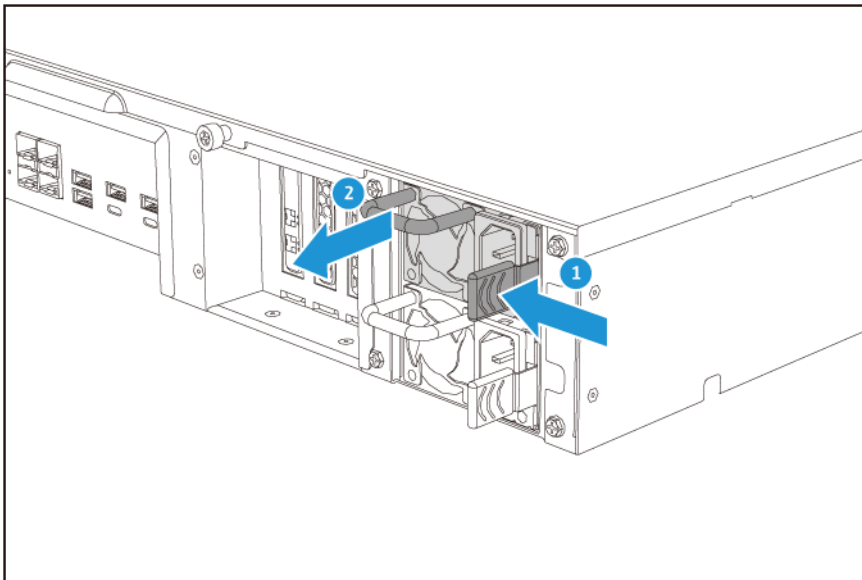


### 警告

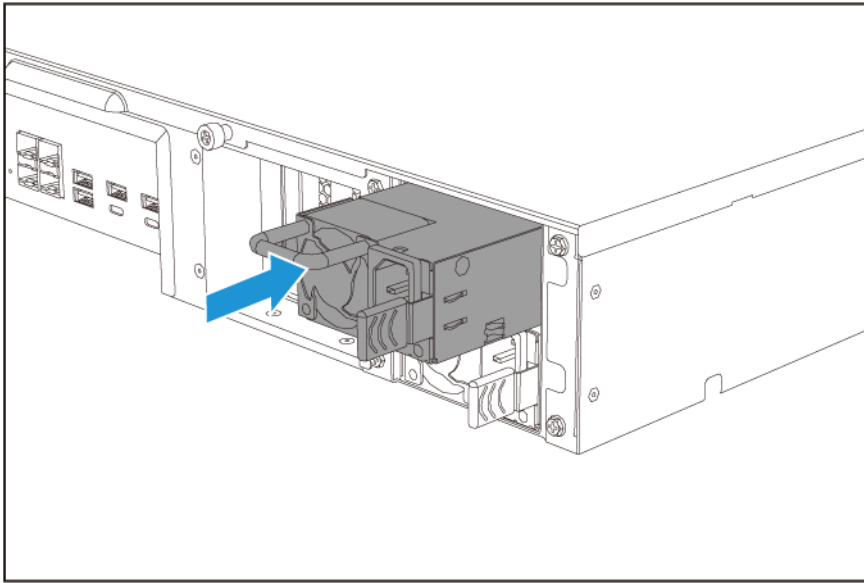


NAS 可能有一条或多条冗余电源单元 (PSU) 线。为避免受到严重伤害，安装或更换系统组件前，经培训的维修技师必须先拔下所有 PSU 线。

1. 关闭 NAS 电源。
2. 从插座和要更换的 PSU 上拔下电源线。
3. 向手柄方向紧按闩锁并拉出 PSU。



4. 插入新 PSU。



5. 将电源线连接到 PSU 和插座。
6. 启动 NAS 电源。
7. 启用 PSU 故障警报。
  - a. 以管理员身份登录 QuTS hero。
  - b. 转到**控制台 > 系统 > 硬件 > 一般设置**。
  - c. 选择**启用冗余电源模式**。
  - d. 单击**全部应用**。

## 导轨套件

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>。

TS-hx83XU-RP 兼容以下导轨型号：

- RAIL-B02

安装信息位于导轨套件包中。

## 安装扩展单元

TS-hx83XU-RP 支持 SAS 扩展单元、USB 扩展单元和 SATA JBOD 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/>。

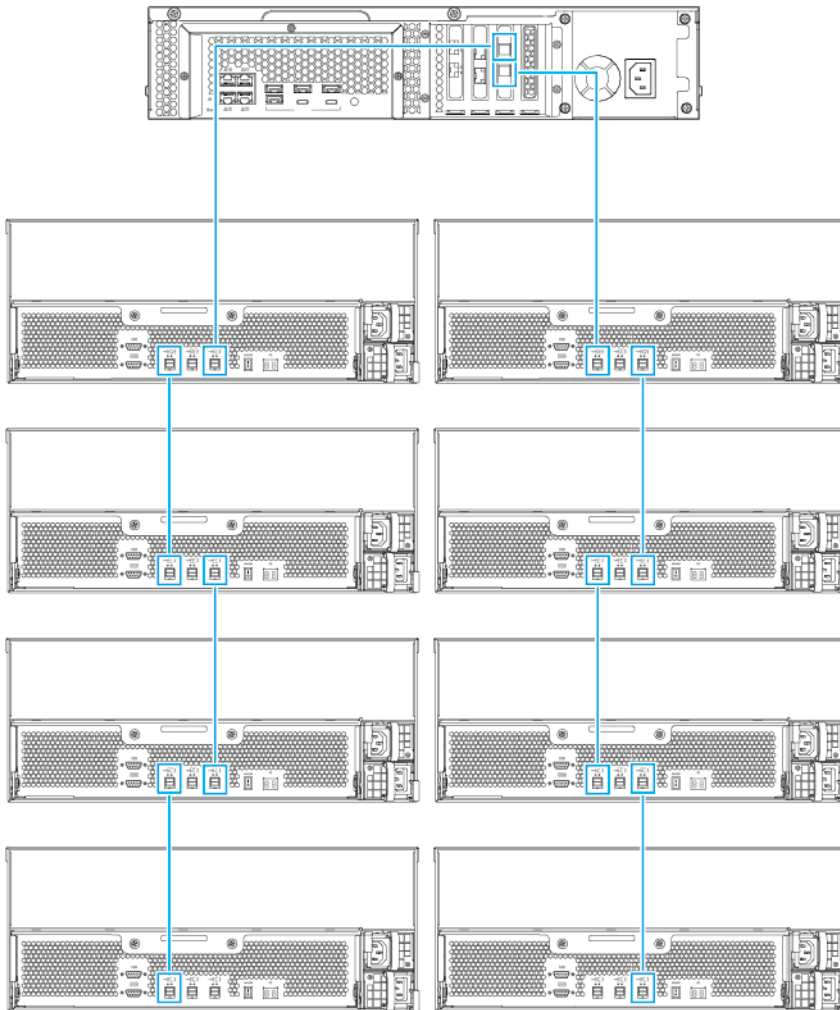
有关兼容扩展单元的列表和最大可应用扩展单元数，请转到 <http://www.qnap.com/go/compatibility-expansion>。

扩展单元类型	描述	所需配件	
REXP-1620U-RP	<ul style="list-style-type: none"> <li>使用 SAS 12 Gbps (SFF-8644) 接口</li> <li>支持 SAS/SATA HDD/SSD</li> </ul>	<ul style="list-style-type: none"> <li>SAS-12G2E 存储扩展卡</li> <li>mini-SAS SFF-8644 线缆</li> <li>RAIL-A03-57</li> </ul>	
REXP-1220U-RP			
REXP-1610U-RP	<ul style="list-style-type: none"> <li>使用 SAS 6 Gbps (SFF-8644) 接口</li> <li>支持 SATA/HDD/SSD</li> </ul>		
REXP-1210U-RP			
TL-D400S	<ul style="list-style-type: none"> <li>使用 SAS 6 Gbps (SFF-8088) 接口</li> <li>支持 SATA/HDD/SSD</li> </ul>	<ul style="list-style-type: none"> <li>1 x SFF-8088 连接器线缆</li> <li>QXP-400eS-A1164 主机总线适配器</li> </ul>	
TL-D800S		<ul style="list-style-type: none"> <li>2 x SFF-8088 连接器线缆</li> <li>QXP-800eS-A1164 主机总线适配器</li> </ul>	
TL-D1600S		<ul style="list-style-type: none"> <li>4 x SFF-8088 至 SFF-8644 连接器线缆</li> <li>QXP-1600eS 主机总线适配器</li> </ul>	
TL-R400S		<ul style="list-style-type: none"> <li>1 x SFF-8088 连接器线缆</li> <li>QXP-400eS-A1164 主机总线适配器</li> <li>RAIL-B02</li> </ul>	
TL-R1200S-RP		<ul style="list-style-type: none"> <li>3 x SFF-8088 至 SFF-8644 连接器线缆</li> <li>QXP-1600eS 主机总线适配器</li> <li>RAIL-B02</li> </ul>	
TR-002		<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>	USB 3.2 Gen 2 A 型至 C 型线缆
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>	USB 3.2 Gen 1 A 型至 C 型线缆
TR-004U	<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-D800C	<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>	USB 3.2 Gen 2 A 型至 C 型线缆	
TL-R1200C-RP		<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>	

## 连接 SAS 扩展单元

要将 TS-hx83XU-RP 连接到 SAS 扩展单元，必须在 NAS 中安装存储扩展卡。有关所需配件的详细信息，请参见 [扩展单元安装](#)。

- 在 PCIe 插槽上安装存储扩展卡。  
有关详细信息，请参见 [更换扩展卡](#)。
- 按以下拓扑将扩展单元连接到 NAS。



3. 为扩展单元接通电源。
4. 确认 NAS 能够识别扩展单元。
  - a. 以管理员身份登录 QuTS hero。
  - 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。

### 连接 SATA JBOD 扩展单元

要将 TS-hx83XU-RP 连接到 SATA JBOD 扩展单元，必须在 NAS 中安装主机总线适配器。有关所需配件的详细信息，请参见[扩展单元安装](#)。

1. 关闭 NAS 电源。

- 在 PCIe 插槽上安装主机总线适配器。

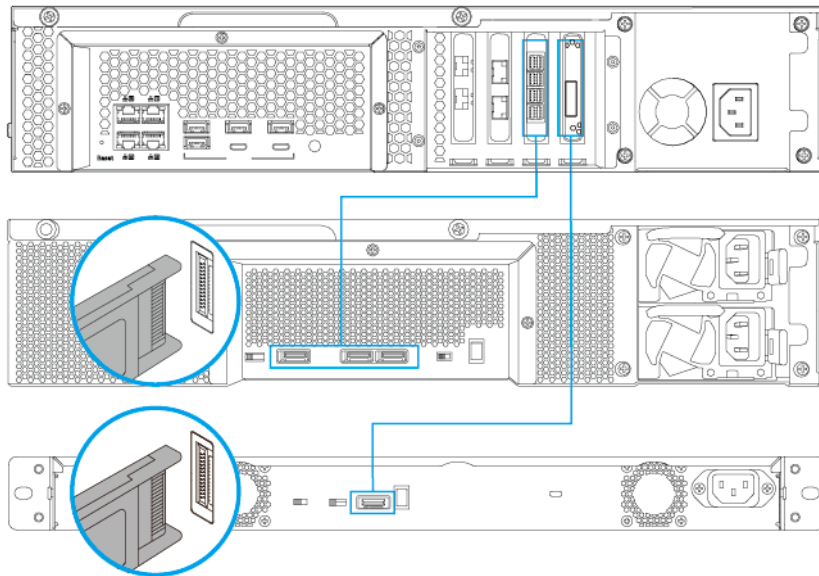


### 重要

将 SATA JBOD 设备连接到主机设备时，需要 QNAP QXP 主机总线适配器。第三方主机总线适配器与 QNAP JBOD 设备不兼容。

有关详细信息，请参见[更换扩展卡](#)。

- 按以下拓扑将扩展单元连接到 NAS。



### 注

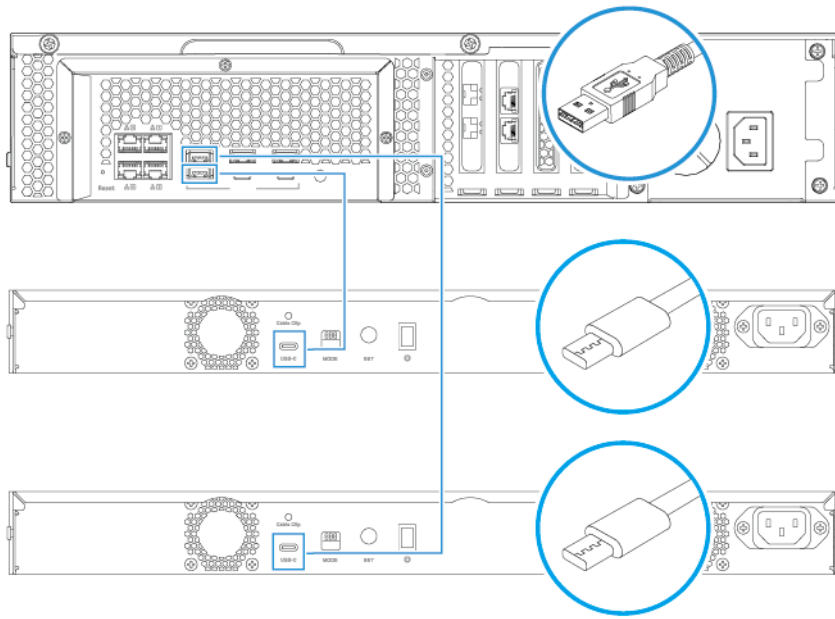
此图显示了将 NAS 连接到 JBOD 扩展单元 TL-R400S 和 TL-R1200S-RP。

- 启动 SATA JBOD 扩展单元电源。
- 启动 NAS 电源。
- 确认 NAS 能够识别扩展单元。
  - 以管理员身份登录 QuTS hero。
  - 转到**主菜单 > 存储与快照总管 > 概述 > 系统**。
  - 确认扩展单元已列出。

## 连接 USB 扩展单元

要将 TS-hx83XU-RP 连接到 USB 扩展单元，需要 USB A 型至 USB C 型线缆或转接头。有关所需配件的详细信息，请参见[扩展单元安装](#)。

- 将扩展单元连接到 NAS。
  - 将 USB 线缆连接到扩展单元上的 USB C 型端口。
  - 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 QuTS hero。
  - 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。

## QuTS hero 安装

TS-hx83XU-RP 使用 QNAP QuTS hero 操作系统。可以使用以下任一方法安装 QuTS hero：

方法	描述	要求
Qfinder Pro 安装 (推荐)	如果 NAS 已连接到您的局域网，可以执行以下操作： <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> 有关详细信息，请参见 <a href="#">使用 Qfinder Pro 安装 QuTS hero</a> 。	<ul style="list-style-type: none"> <li>• 计算机</li> <li>• 网线</li> <li>• Qfinder Pro 安装程序</li> </ul>

方法	描述	要求
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>• 登录您的 myQNAPcloud 帐户。</li> <li>• 使用 myQNAPcloud Link 远程访问 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 Cloud Key 安装 QuTS hero</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 QuTS hero



### 警告

安装 QuTS hero 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。



### 注

您可以随时恢复为 QTS 操作系统。有关详细信息，请参见《QuTS hero 用户指南》。

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

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 QuTS hero。

16. 单击**确认**。  
QuTS hero 即安装完毕。

## 使用 Cloud Key 安装 QuTS hero

**警告**

安装 QuTS hero 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。

**注**

您可以随时恢复为 QTS 操作系统。有关详细信息，请参见《QuTS hero 用户指南》。

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**

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**

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**

- 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 QuTS hero，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**。

此时会出现**配置网络设置**屏幕。

13. 选择**自动获取 IP 地址(DHCP)**。

您还可以选择“静态 IP 地址”配置选项来满足网络需求。只能应用一种网络配置方法。

14. 单击**下一步**。

此时会出现**跨平台文件传输服务**屏幕。

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**。

此时会出现**摘要**窗口。

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 QuTS hero。

19. 单击**确认**。


QuTS hero 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。

 **重要**  
 仅当 NAS 无响应时才能使用此方法。

### 重置按钮

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>系统管理员密码：适配器 1 的 MAC 地址，无特殊字符。例如，如果适配器 1 的 MAC 地址为 11:22:33:44:55:66，则管理员密码将为 112233445566。</li> </ul> <p> <b>提示</b>            您可以使用 Qfinder Pro 找到适配器 1 的 MAC 地址。设备上粘贴的标签也会在 MAC1 下列出此地址。</p> <ul style="list-style-type: none"> <li>TCP/IP 配置：               <ul style="list-style-type: none"> <li>使用动态 IP 地址</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 NAS 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 NAS 已连接到网络的情况。

有关 LED 位置的详细信息，请参见[前面板](#)。

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>• NAS 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> </ul>
	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>• NAS 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> </ul>
	闪烁红色，间隔 0.5 秒	NAS 处于降级模式（RAID 1、RAID 5 或 RAID 6 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>• NAS 正在启动。</li> <li>• NAS 未配置。</li> <li>• 硬盘未格式化。</li> </ul>
	绿色	NAS 已准备就绪。
	熄灭	所有硬盘都处于待机模式。
硬盘	绿色	硬盘就绪。
	闪烁绿色	正在访问硬盘。
	红色	发生读/写错误。
	闪烁红色	QuTS hero 正在定位硬盘。
扩展单元	橙色	扩展单元已连接。
	熄灭	未连接任何扩展单元。
LAN	橙色	NAS 网络链路处于活动状态。
	闪烁橙色	正在访问 NAS。
	熄灭	没有网络链路。

## 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. NAS 迁移

通过将所有硬盘从源 NAS 安装到目标 NAS，可以将数据和设置从当前 NAS 迁移到另一个型号的 NAS，从而使中断次数降到最低。迁移后，目标 NAS 上将保留 RAID 配置和其他设置。

### NAS 迁移要求

只能将硬盘和系统设置迁移到特定的 NAS 型号，具体取决于源 NAS。有关与直接 NAS 迁移兼容的 NAS 型号列表，请参见 <https://www.qnap.com/en/nas-migration>。

设备必须符合以下要求：

- 目标 NAS 必须在与源 NAS 相同的 QuTS hero 版本（或更高版本）上运行。



#### 重要

由于文件系统不兼容，因此不支持 QTS NAS 和 QuTS hero NAS 之间的系统迁移。



#### 警告

在 QTS NAS 和 QuTS hero NAS 之间迁移硬盘可能导致数据损坏。

- 目标 NAS 必须有足够可用的硬盘架，以容纳要从源 NAS 迁移的所有硬盘。

对于不支持 NAS 迁移的 NAS 型号，请参见[如何使用 HBS3 在 QTS 和 QuTS hero 之间迁移数据和文件夹权限](#)。

### NAS 迁移后的状态和设置变化

迁移后，NAS 数据和设置的状态会发生变化。

数据和设置	NAS 迁移后
注册的 myQNAPcloud 名称	注册的 myQNAPcloud 名称不会迁移。
对共享文件夹加密	如果 NAS 不支持文件系统加密，加密的共享文件夹不会迁移。   <b>警告</b> 为防止数据丢失，请备份加密共享文件夹的加密密钥并将其保存在安全的位置。也可以选择迁移之前解密共享文件夹。
共享文件夹	所有共享文件夹及其中存储的下载文件都会得到保留。   <b>警告</b> 为防止数据丢失，请在迁移之前备份加密共享文件夹的加密密钥或密码，并将其保存在安全的位置。   <b>重要</b> 迁移后，必须重新配置目标 NAS 上的文件夹权限。
网络	如果目标 NAS 上的网络端口数量或规格与源 NAS 不同，则以下网络和虚拟设置可能会更改并需要重新配置：端口中继、虚拟机、Thunderbolt 等。
Windows AD 配置	必须重新配置 Windows AD 配置。
许可证	许可证不会迁移。   <b>警告</b> QNAP 建议在迁移数据之前停用源 NAS 的许可证。

数据和设置	NAS 迁移后
应用程序	如果目标 NAS 的 RAM 少于源 NAS，则以下功能和应用程序可能无法运行：Virtualization Station、Qsirch 和快照。
服务	只能使用目标 NAS 支持的服务。
多媒体功能	默认情况下，会禁用某些多媒体功能。

## 迁移 NAS



### 重要

执行 NAS 迁移之前，请确保您已了解所有要求以及迁移后可能发生的变化。有关详细信息，请参见以下主题：

- [NAS 迁移要求](#)
- [NAS 迁移后的状态和设置变化](#)

1. 关闭源 NAS 和目标 NAS。
2. 取下硬盘。



### 重要

QNAP 建议在安装硬盘时按照源 NAS 硬盘顺序安装。拆除硬盘时，记下硬盘托盘顺序。

- a. 从源 NAS 中取下硬盘。
- b. 从目标 NAS 中取下硬盘托盘。
3. 安装硬盘。
  - a. 将源 NAS 硬盘安装到目标 NAS 硬盘托盘上。
  - b. 将硬盘托盘插入目标 NAS 中。
4. 启动目标 NAS 的电源。
5. 在目标 NAS 上以管理员身份登录 QuTS hero。  
目标 NAS 会自动检查最新固件更新。

## 6. 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 QuTS hero 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 QuTS hero。

### 热插拔故障硬盘

在以下情况下，NAS 支持热插拔硬盘：

- RAID 1：一个成员硬盘有故障
- RAID 5：一个成员硬盘有故障
- RAID 6：一个或两个成员硬盘有故障

1. 登录 QuTS hero。
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。

### 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>



## 7. 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

### **QuTS hero**

采用 ZFS 文件系统的 QNAP NAS 操作系统

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Version 3, 29 June 2007

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- 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.
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- 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.

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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.

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显示	0	0	0	0	0	0
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金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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