



**QNAP**

# TVS-x72N

TVS-672N

TVS-872N

用户指南

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# 1. 前言





## 关于本指南

本指南提供有关 QNAP TVS-x72N 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用户和存储管理员。本指南假定用户已对存储和备份概念有基本了解。

## 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 TVS-x72N NAS 的基本信息。

### 关于 TVS-x72N

TVS-x72N 是一款高性能 NAS，配有 Intel® Core™ i3-8100T 处理器，支持高达 32 GB 的 DDR4 内存。它特有一个 HDMI 端口，可进行外部显示，还有一个 USB 一键复制端口，可方便地实现数据备份和传输。除了一个 5GbE 网络端口和两个千兆位以太网端口外，TVS-x72N 还配有一个 PCIe 3.0 x4 插槽和一个 PCIe 3.0 x16 插槽，用于提供多种可能的功能，包括额外的数据管理功能和额外的多媒体支持。



### 硬件规格

订购部件号	硬盘架	内存	电源
TVS-672N	6	Intel® Core™ i3-8100T	单一
TVS-872N	8	Intel® Core™ i3-8100T	单一

组件	TVS-672N	TVS-872N
处理器		
CPU	Intel® Core™ i3-8100T	
频率	4 核/4 线程 3.1 GHz	
架构	x86 64 位	
加密引擎	AES-NI	
显卡	Intel® UHD Graphics 630 图形处理器	
	 <b>提示</b> 您可以在 PCIe 插槽中安装显卡。	
内存		
预安装内存	4 GB RAM: 2 x 2 GB SODIMM DDR4	8 GB RAM: 2 x 4 GB SODIMM DDR4
内存插槽	2 x SODIMM DDR4	
	 <b>重要</b> 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。 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。	
最大内存	32 GB: 2 x 16 GB	
闪存	5 GB (双重引导操作系统保护)	
存储		
硬盘架	6 x 3.5 英寸 SATA 6 Gbps	8 x 3.5 英寸 SATA 6 Gbps
	 <b>注</b> SATA 6 Gbps 硬盘向后兼容 3 Gbps。	

组件	TVS-672N	TVS-872N
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 M.2 PCIe Gen3 x2  <b>提示</b> 您可以在 PCIe 插槽中安装 M.2 SSD 扩展卡。	
M.2 SSD 外形规格	2280	
SSD 缓存加速支持	3.5 英寸硬盘架 1 至 6	3.5 英寸硬盘架 1 至 8
	<ul style="list-style-type: none"> <li>• M.2 SSD 插槽 1 至 2</li> <li>• 可选：M.2 SSD 扩展卡上的 M.2 SSD 插槽</li> </ul>	
热插拔	本设备支持热插拔硬盘，以下各项除外： <ul style="list-style-type: none"> <li>• M.2 SSD</li> <li>• SSD 缓存硬盘</li> <li>• 可选：安装在 M.2 SSD 扩展卡上的 M.2 SSD</li> </ul>	
网络		
5 Gb 以太网端口	1 x 5 GbE RJ45  <b>注</b> 5 GbE RJ45 千兆位以太网端口可提供五种连接速度：5G、2.5G、1G、100M 和多千兆位。	
千兆位以太网端口	2 x 1 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 3.0 x16</li> <li>• 1 x PCIe Gen 3.0 x4</li> </ul>  <b>提示</b> 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> 。	
USB 端口	Front: 1 x USB 3.1 Gen 2 (10Gbps) 5V/1A A 型  <b>注</b> This USB port supports One Touch Copy. 背面： <ul style="list-style-type: none"> <li>• 1 x USB 3.1 Gen 2 (10Gbps) 5V/1A A 型</li> <li>• 1x USB 3.0 A 型</li> <li>• 2 x USB 3.1 Gen 2 (10Gbps) 5V/3A C 型</li> </ul>	
HDMI 端口	1x HDMI 2.0 (60 Hz HDR 时分辨率最高 3840 x 2160)	

组件	TVS-672N	TVS-872N
音频端口	<ul style="list-style-type: none"> <li>• 1 个 3.5 mm 动圈式麦克风插孔</li> <li>• 1 个 3.5 mm 线路输出插孔</li> <li>• 1 x 扬声器</li> </ul> <p> <b>注</b> 扬声器和线路输出插孔不能同时使用。</p>	
接口		
显示面板	单色背光 LCD 显示屏	
红外传感器	1	
	<p> <b>注</b> QNAP RM-IR004 遥控器是可选配件，需另购。</p>	
按钮	<ul style="list-style-type: none"> <li>• 电源</li> <li>• 重置</li> <li>• USB 一键复制</li> </ul>	
尺寸		
外形规格	立式	
尺寸（高 x 宽 x 深）	188.2 x 264.3 x 279.6 mm （7.41 x 10.40 x 11.01 英寸）	188.2 x 329.3 x 279.6 mm （7.41 x 12.96 x 11.01 英寸）
净重	6.55 kg（14.44 磅）	7.06 kg（15.56 磅）
其他		
电源单元	1 x 250W，100-240V AC，50/60 Hz	
	<p> <b>警告</b> 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。</p>	
系统电池	CR2032 锂电池（3V，225 mAh）	
	<p> <b>警告</b> 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。</p> <p> <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。</p>	
噪声声级	23.8 dB(A)	24.2 dB(A)
	<p> <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。</p>	

组件	TVS-672N	TVS-872N
风扇	<ul style="list-style-type: none"> <li>系统：2 x 9.2 cm, 12V DC 风扇</li> <li>CPU：2 x 6 cm, 12V DC 风扇</li> </ul> <div style="display: flex; align-items: center;">  <p><b>警告</b></p> </div> <div style="text-align: center; margin: 10px 0;">  </div> <p>为避免潜在伤害或组件的损坏，NAS 连接电源时，切勿触及风扇。</p>	
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	



#### 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>。

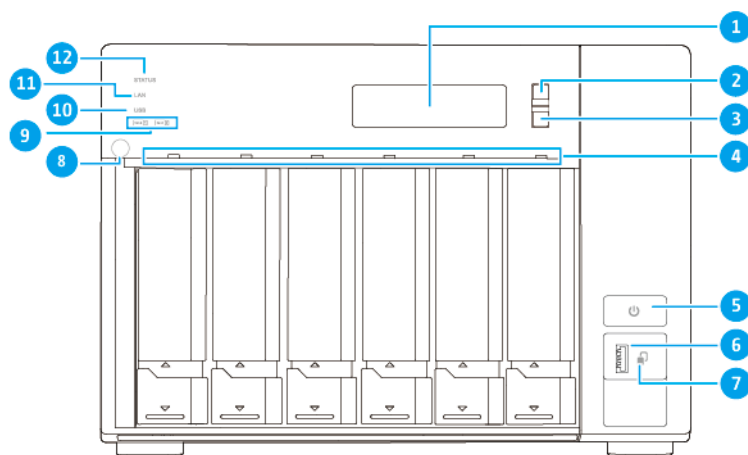
## 包装内容

项目	数量
TVS-x72N NAS	1
电源线	1
以太网线	3 x RJ45
适用于 3.5 英寸硬盘的螺丝	<ul style="list-style-type: none"> <li>TVS-672N：18 个螺丝</li> <li>TVS-872N：24 个螺丝</li> </ul>
适用于 2.5 英寸硬盘的螺丝	<ul style="list-style-type: none"> <li>TVS-672N：18 个螺丝</li> <li>TVS-872N：24 个螺丝</li> </ul>
M.2 SSD 散热片	2
快速安装指南 (QIG)	1

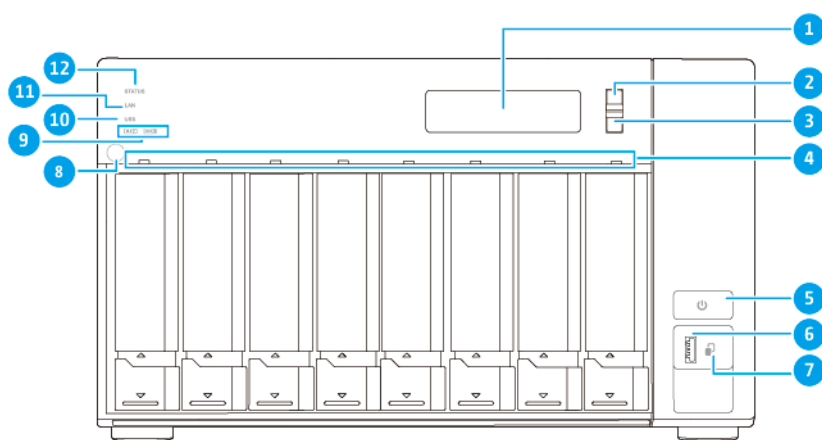
## 组件



## 前面板



## TVS-672N

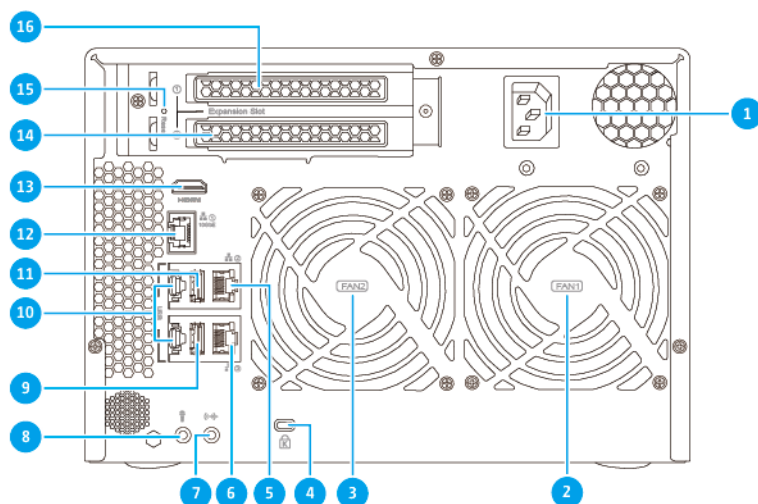


## TVS-872N

编号	组件	编号	组件
1	LCD 面板	7	USB 一键复制按钮
2	Enter (确认) 按钮	8	红外传感器
3	Select (选择) 按钮	9	M.2 SSD LED
4	硬盘 LED	10	USB LED
5	电源按钮	11	LAN LED

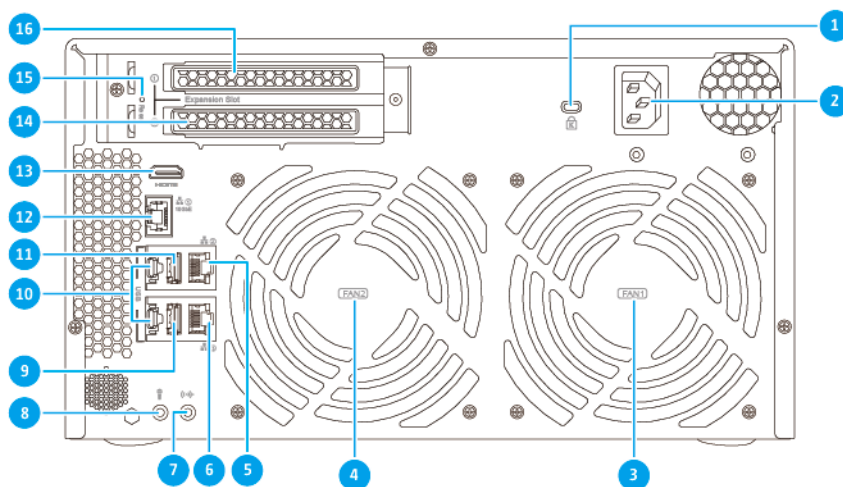
编号	组件	编号	组件
6	USB 3.1 Gen 2 一键复制 A 型端口	12	状态 LED

## 后面板



## TVS-672N

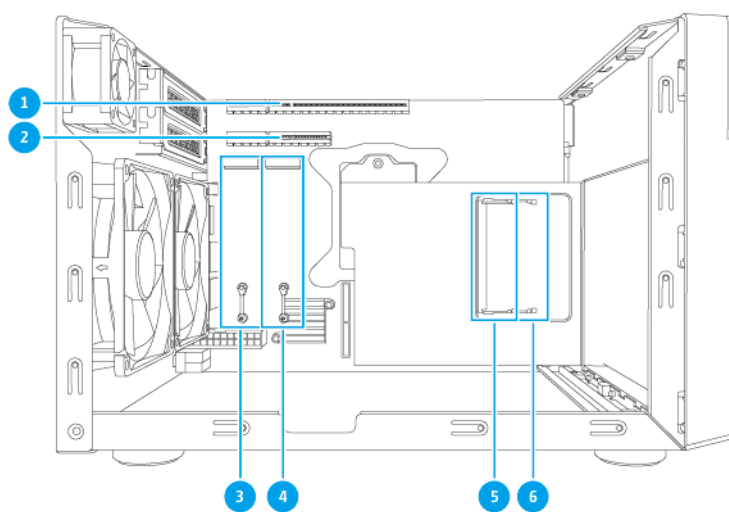
编号	组件	编号	组件
1	电源输入	9	USB 3.1 Gen 2 A 型端口
2	系统风扇 1	10	USB 3.1 Gen 2 C 型端口
3	系统风扇 2	11	USB 3.0 A 型端口
4	Kensington 安全锁孔	12	以太网端口(5GbE RJ45) 1
5	以太网端口(GbE RJ45)2	13	HDMI2.0 端口
6	以太网端口(GbE RJ45)3	14	PCIe 全高盖板 2
7	3.5 mm 线路输出插孔	15	重置按钮
8	3.5 mm 动圈式麦克风插孔	16	PCIe 全高盖板 1



## TVS-872N

编号	组件	编号	组件
1	Kensington 安全锁孔	9	USB 3.1 Gen 2 A 型端口
2	电源输入	10	USB 3.1 Gen 2 C 型端口
3	系统风扇 1	11	USB 3.0 A 型端口
4	系统风扇 2	12	以太网端口(5GbE RJ45)
5	以太网端口(GbE RJ45)1	13	HDMI2.0 端口
6	以太网端口(GbE RJ45)2	14	PCIe 全高盖板 2
7	3.5 mm 线路输出插孔	15	重置按钮
8	3.5 mm 动圈式麦克风插孔	16	PCIe 全高盖板 1

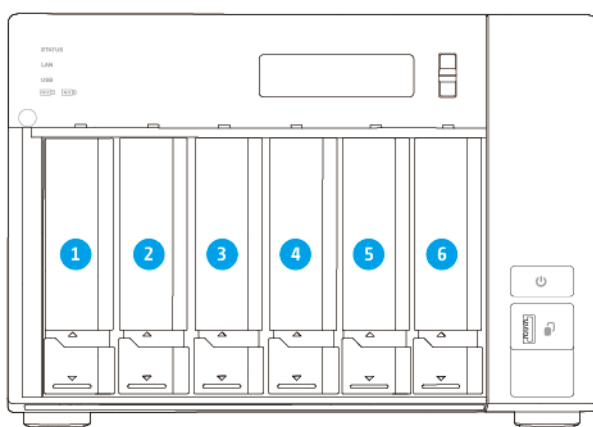
## 系统主板



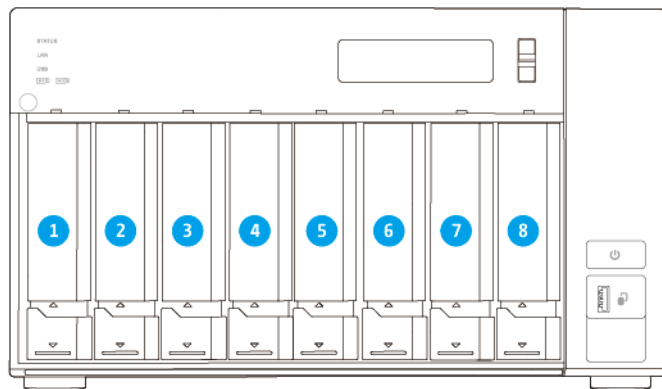
**注**  
此图不显示机箱。

编号	组件	编号	组件
1	PCIe 3.0 x16 插槽 1	4	M.2 SSD 插槽 2
2	PCIe 3.0 x4 插槽 2	5	内存插槽 1
3	M.2 SSD 插槽 1	6	内存插槽 2

## 硬盘编号



## TVS-672N



## TVS-872N

## 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。
- 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。



配备冗余电源的设备可能有一条或多条电源单元 (PSU) 线。为避免受到严重伤害，安装或更换系统组件前，必须由经培训的维修技师从设备拔下所有 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。

## 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> <li>• 无可能阻塞 NAS 通风或者压住 NAS 或电源线的物品</li> </ul>
硬件和外围设备	<ul style="list-style-type: none"> <li>• 存储硬盘 有关兼容硬盘的详细信息，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[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. 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](#)
  - [安装 M.2 固态硬盘](#)
3. 连接电源线和所有适用的线缆。

4. 启动 NAS 电源。
5. 安装 QTS。  
有关详细信息，请参见 [QTS 安装](#)。
6. 登录 QTS。

## 3. 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。

### 硬盘安装

TVS-x72N 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。

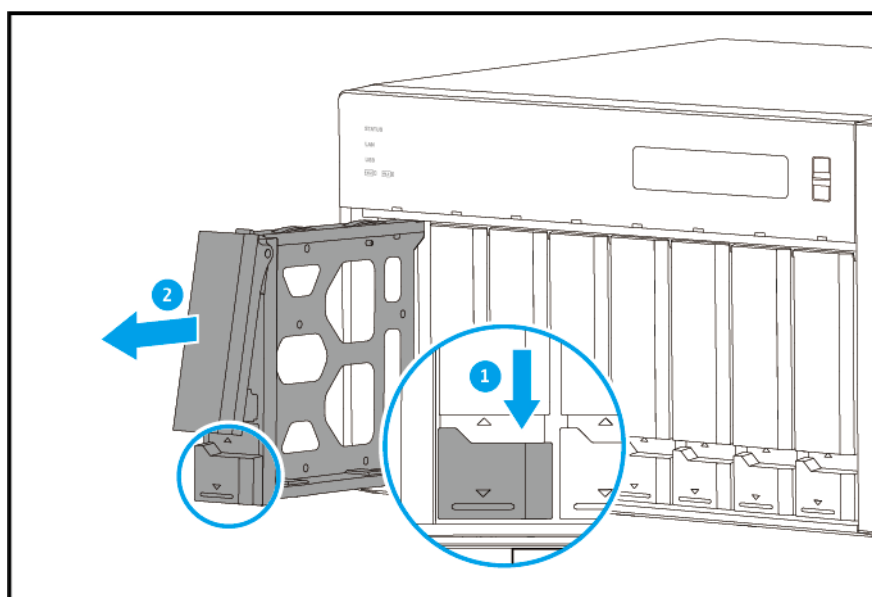
#### 在 3.5 英寸托盘上安装 3.5 英寸硬盘



#### 警告

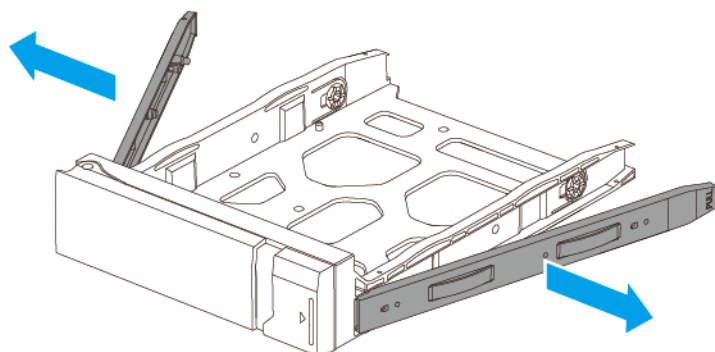
- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。

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

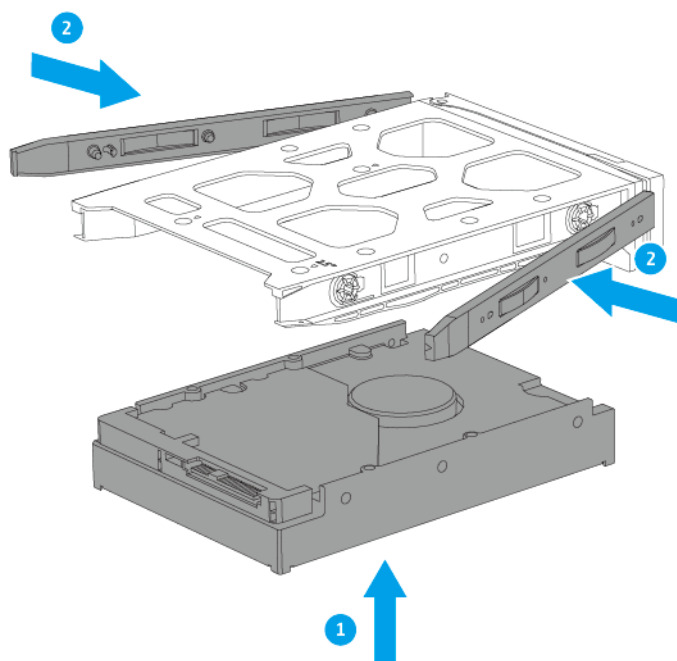


3. 将硬盘安装到托盘上。
  - a. 取下硬盘托盘两侧的固定面板。

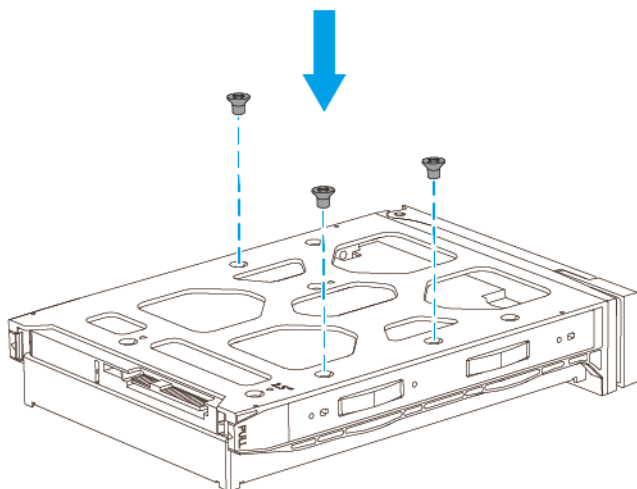




- b. 将硬盘放在托盘上，使硬盘两侧的孔与托盘两侧的孔对齐。
- c. 装上固定面板。

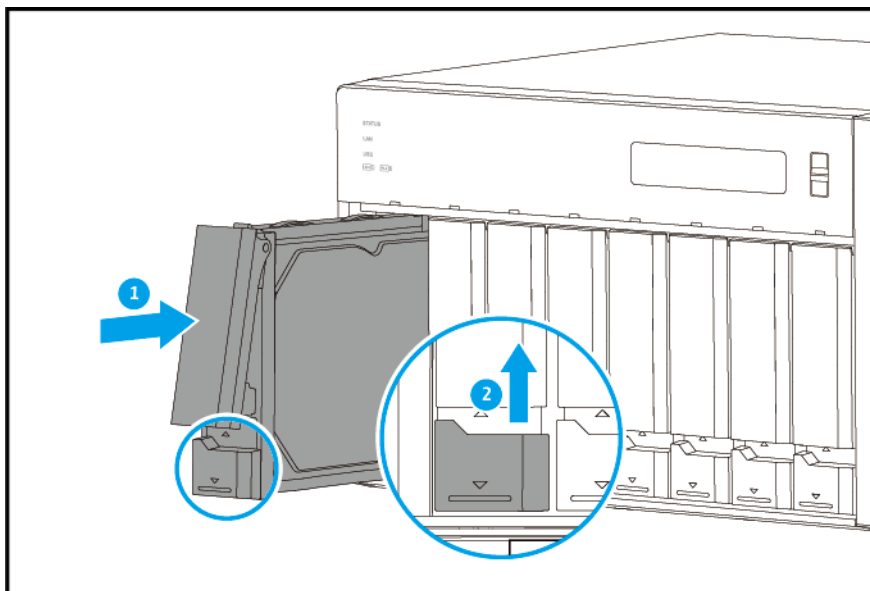


- d. 装上螺丝，进一步固定硬盘。



**重要**  
QNAP 建议在转运 NAS 时将螺丝装到硬盘托盘上。

4. 将托盘装入硬盘架。
  - a. 将托盘插入硬盘架。
  - b. 推动手柄。
  - c. 向上滑动锁扣。



5. 启动 NAS 电源。

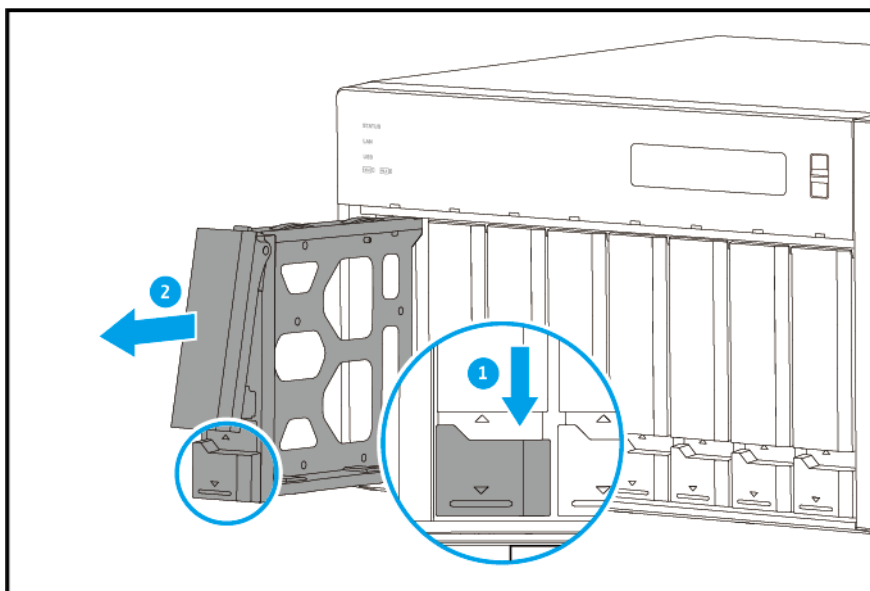
## 在 2.5 英寸托盘上安装 3.5 英寸硬盘



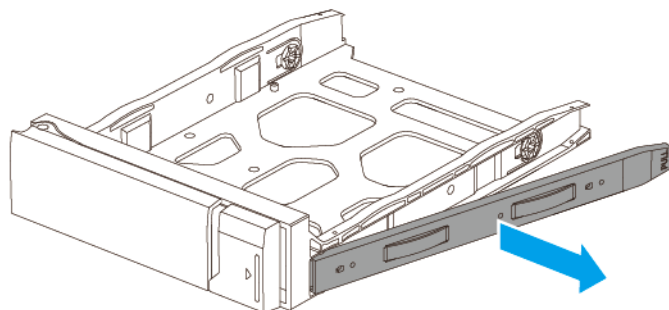
### 警告

- 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。

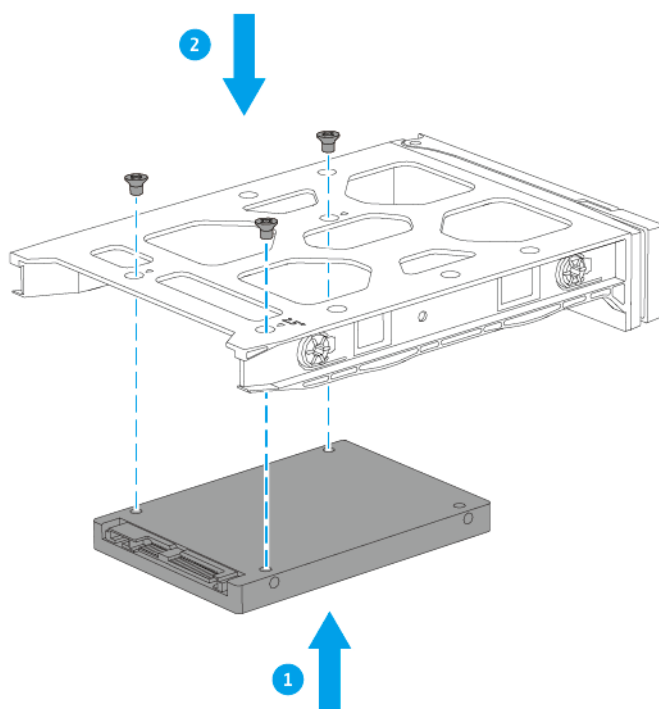
1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 向下滑动锁扣。
  - b. 拉动手柄以松开托盘。
  - c. 拉出托盘。



3. 将硬盘安装到托盘上。
  - a. 取下硬盘托盘右侧的固定面板。

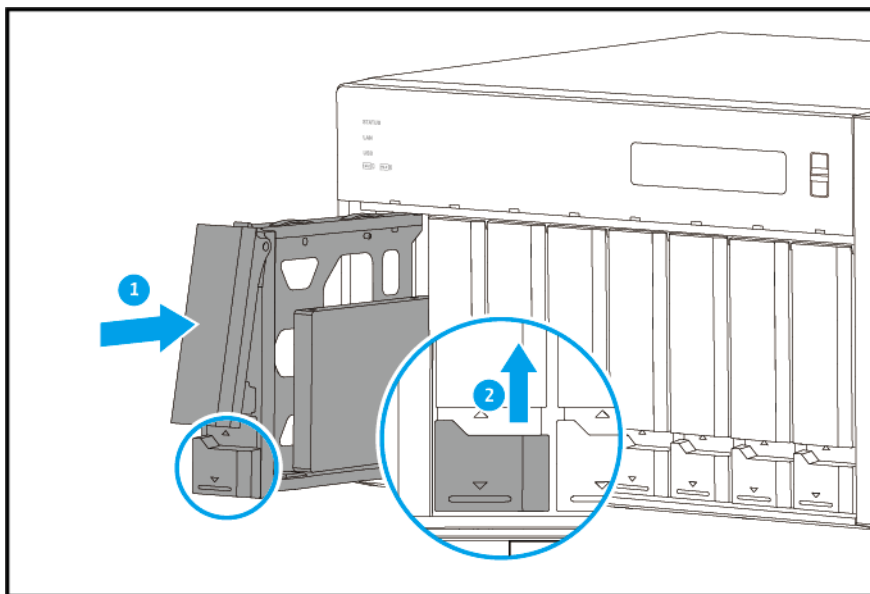


- b. 将硬盘放在托盘上，使硬盘底部的孔与托盘底部的孔对齐。
- c. 安装螺丝。



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

c. 向上滑动锁扣。



5. 启动 NAS 电源。

## 安装 M.2 固态硬盘



### 警告

- 只有合格人员才能执行以下步骤。不遵守说明可能会导致重伤或死亡。
- 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。



**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。

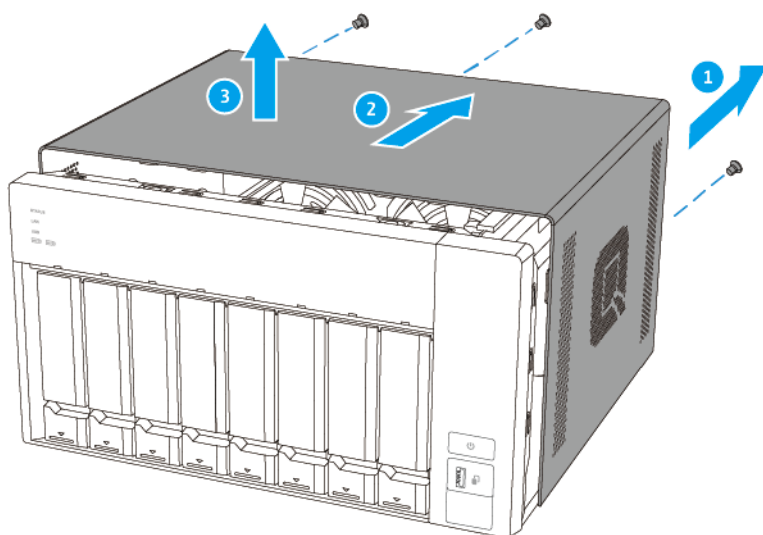


### 注

- TVS-x72N 有两个 M.2 SSD 插槽。有关兼容的 M.2 SSD 的列表，请转到 <https://www.qnap.com/compatibility>。
- 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. 取下前盖。
  - a. 卸下用于将外壳盖固定到机箱的螺丝。
  - b. 将盖板向后滑动。
  - c. 向上提起盖板，使其完全脱离机箱。

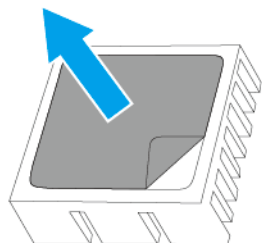


5. 将 NAS 右侧朝下放置。
6. 在 M.2 SSD 控制器上安装散热片。
  - a. 在 M.2 SSD 上找到控制器。

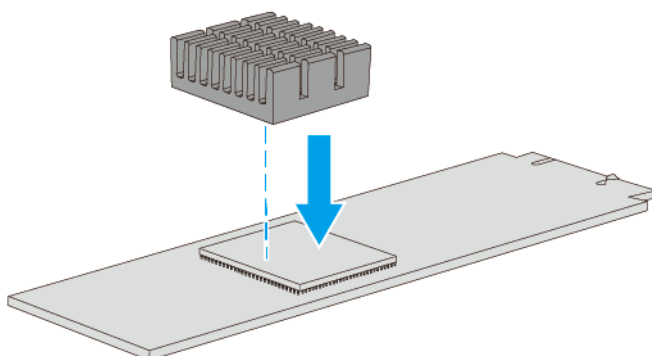
**注**

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。

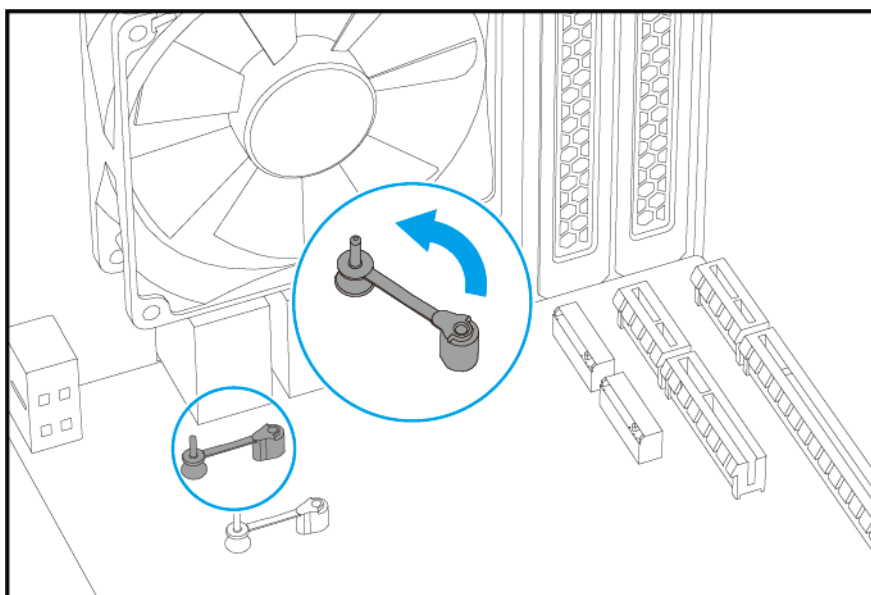


c. 将散热片安装到控制器上。

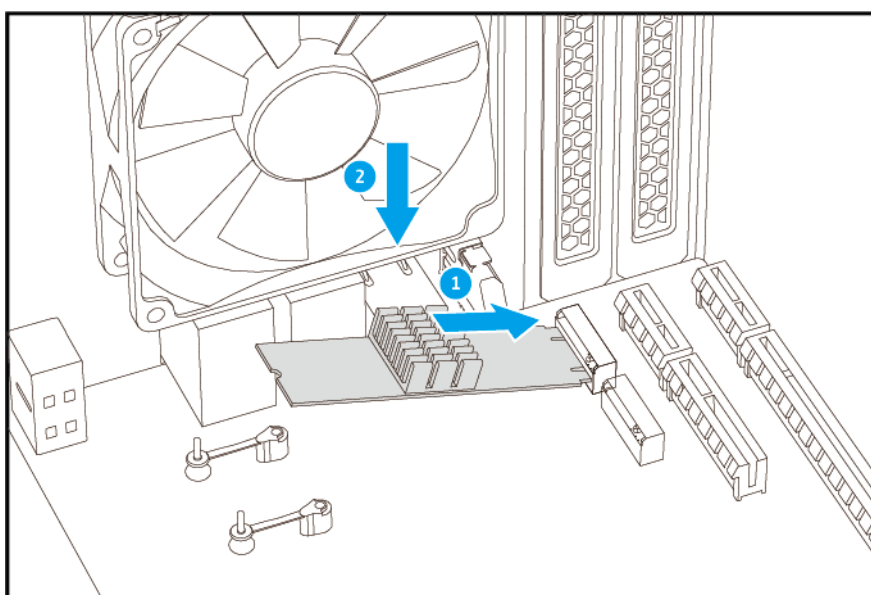


7. 安装 M.2 SSD。

a. 拉开固定扣。

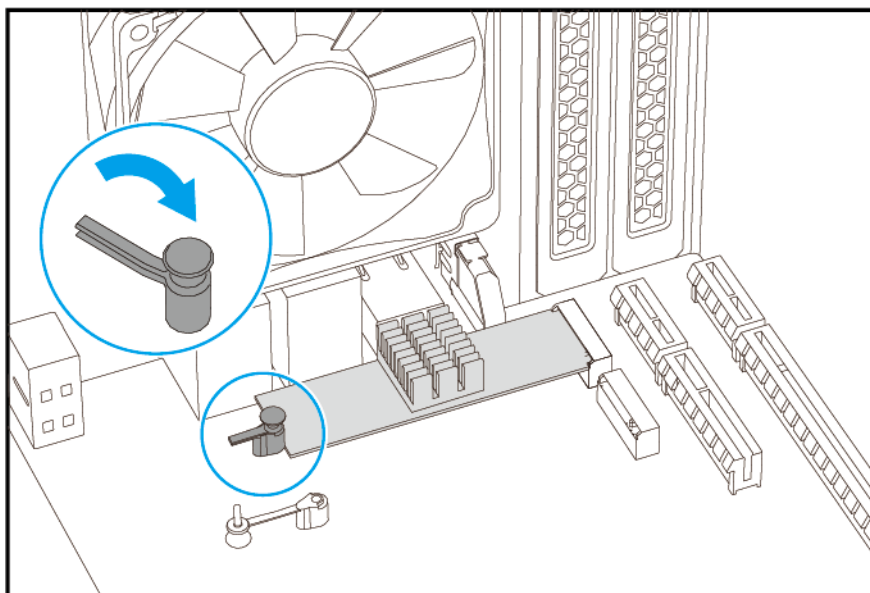


b. 插入 M.2 SSD。

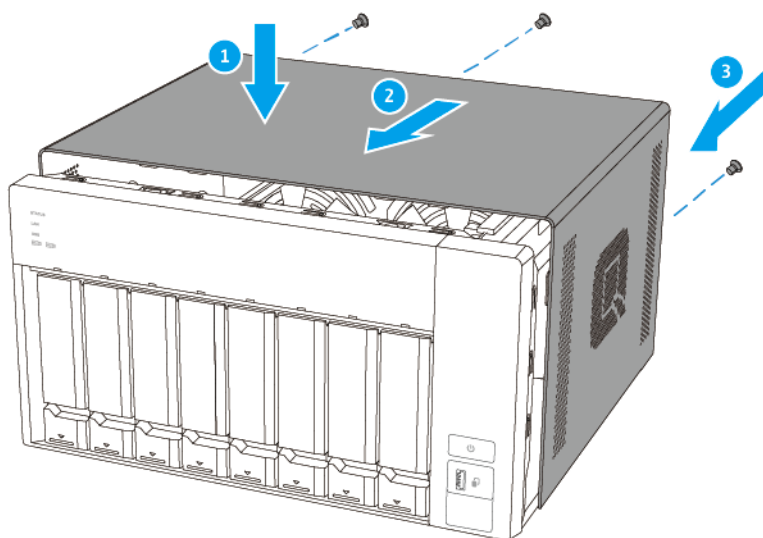


c. 插入固定扣，固定硬盘。





8. 将 NAS 正常放置。
9. 安装外壳盖。
  - a. 向下滑动盖板，使其完全触及机箱。
  - b. 将盖板向前滑动。
  - c. 安装 NAS 背面的螺丝。



10. 连接所有线缆和外接部件。
11. 将电源线连接到插座。
12. 启动 NAS 电源。

## 安装扩展卡

TVS-x72N 支持精选的扩展卡，其中一些需要 QNAP 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。

有关支持的扩展卡和支架的详细信息，请转到 <http://www.qnap.com/compatibility>



### 警告

- 只有合格人员才能执行以下步骤。不遵守说明可能会导致重伤或死亡。
- 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。



**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. 在 QNAP 网站上查看您的型号支持的扩展卡和支架。

- a. 转到 [www.qnap.com/compatibility](http://www.qnap.com/compatibility)。
- b. 单击**依 NAS 检索**。
- c. 指定 NAS 的硬盘架数量和具体型号。
- d. 在**装置类型**下，选择组件或设备类型。
- e. 在列表中找到具体的组件或设备机型。
- f. 单击相应的**备注**图标可查看更多信息。

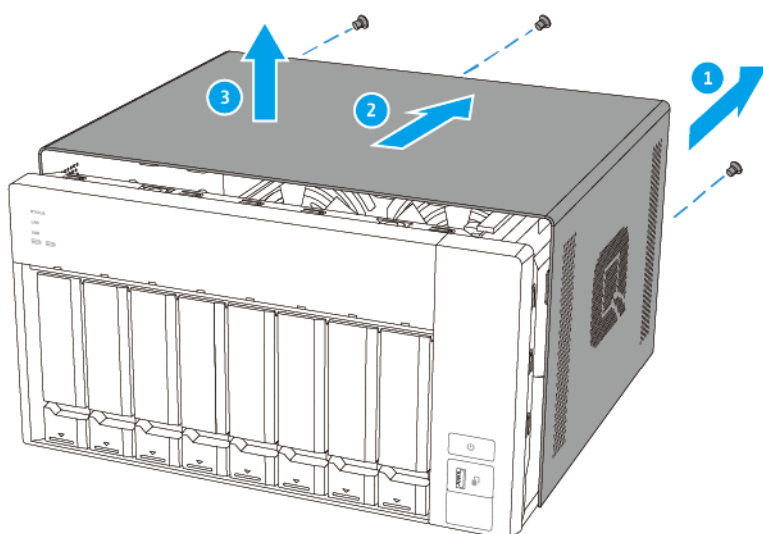
2. 关闭 NAS 电源。

3. 从插座上拔下电源线。

4. 拔掉所有线缆和外接部件。

5. 取下外壳盖。

- a. 卸下用于将外壳盖固定到机箱的螺丝。
- b. 将盖板向后滑动。
- c. 向上提起盖板，使其完全脱离机箱。



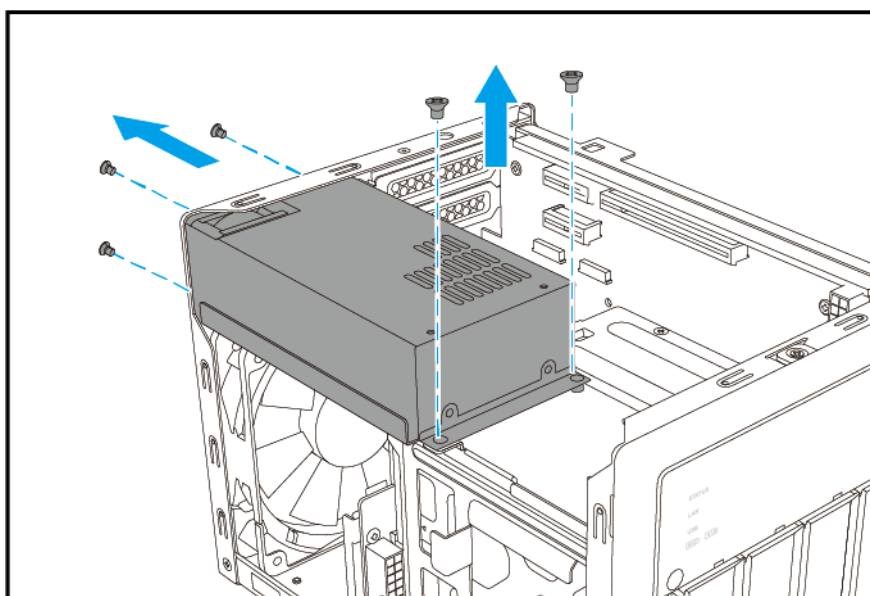
## 6. 取下电源单元。



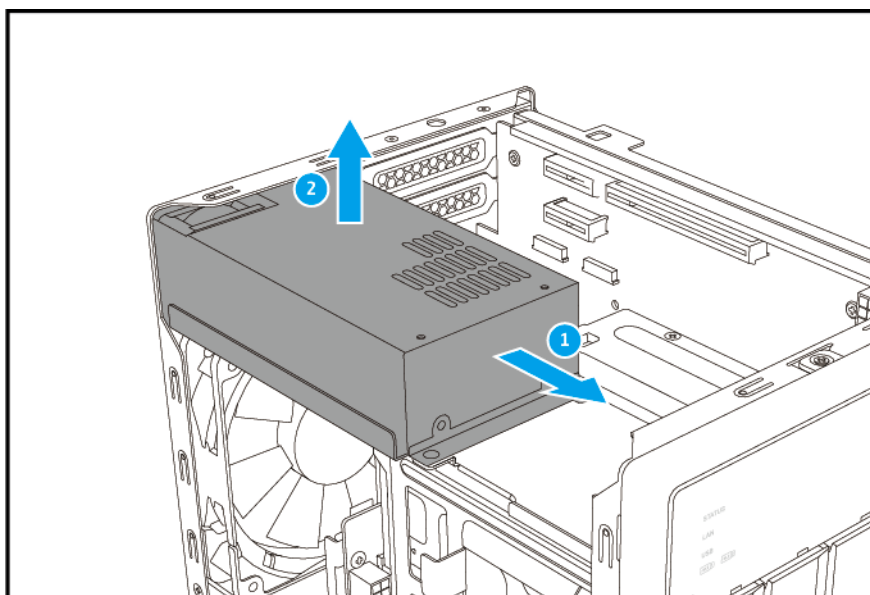
### 警告

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。

- a. 拔下电源线。
- b. 卸下用于将电源单元固定到机箱的螺丝。

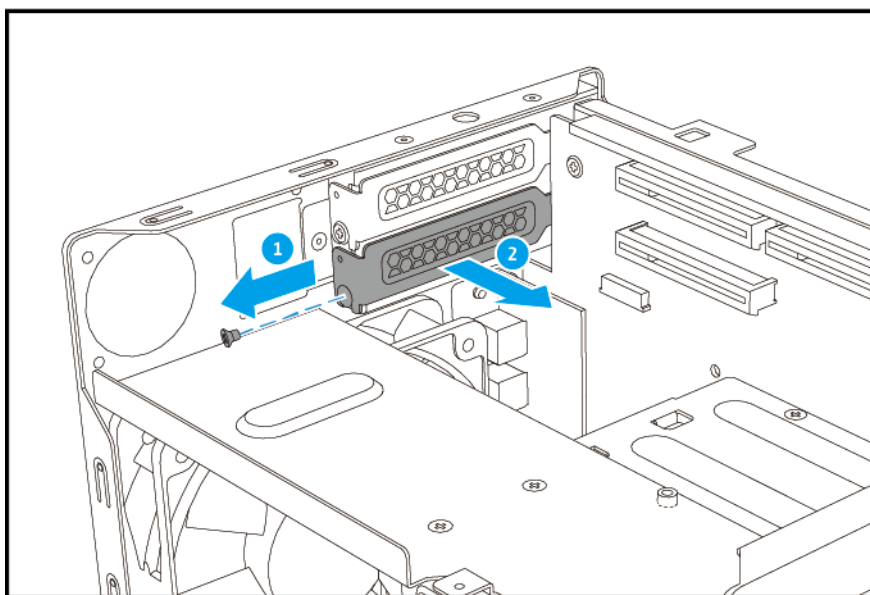


- c. 将电源单元从机箱上取下。



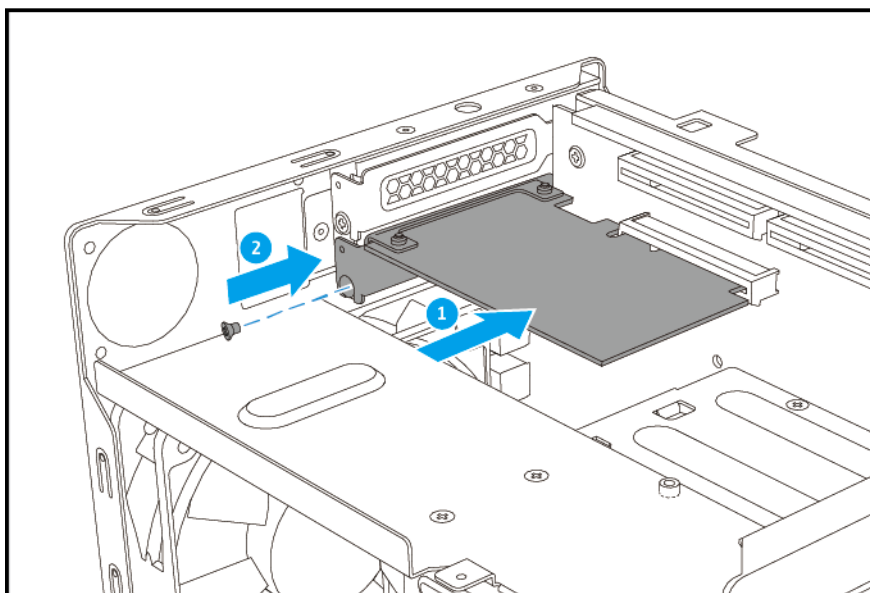
**7. 取下 PCIe 插槽盖板。**

- a. 卸下用于将盖板固定到机箱的螺丝。
- b. 将盖板从插槽中拉出。



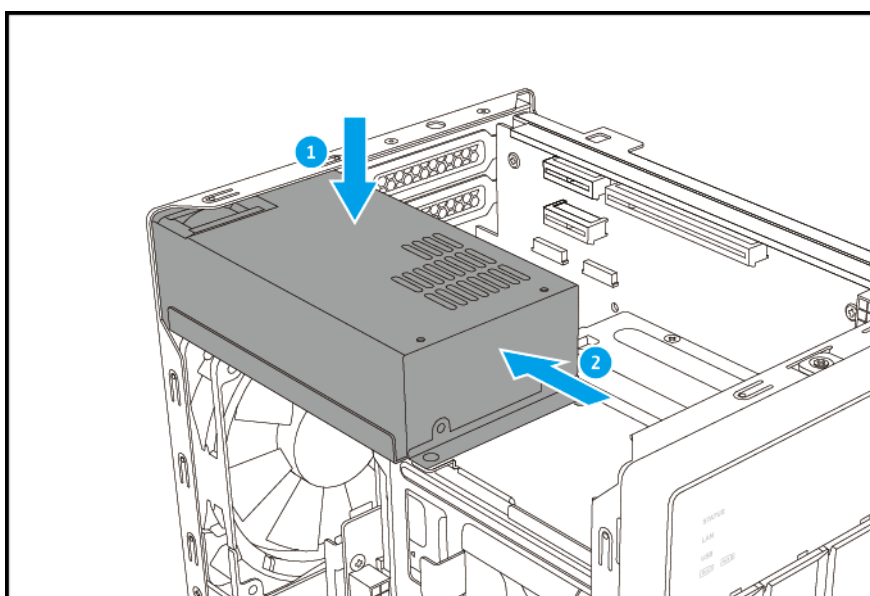
**8. 安装扩展卡。**

- a. 握住扩展卡边缘。
- b. 将其插入插槽中。
- c. 安装螺丝。

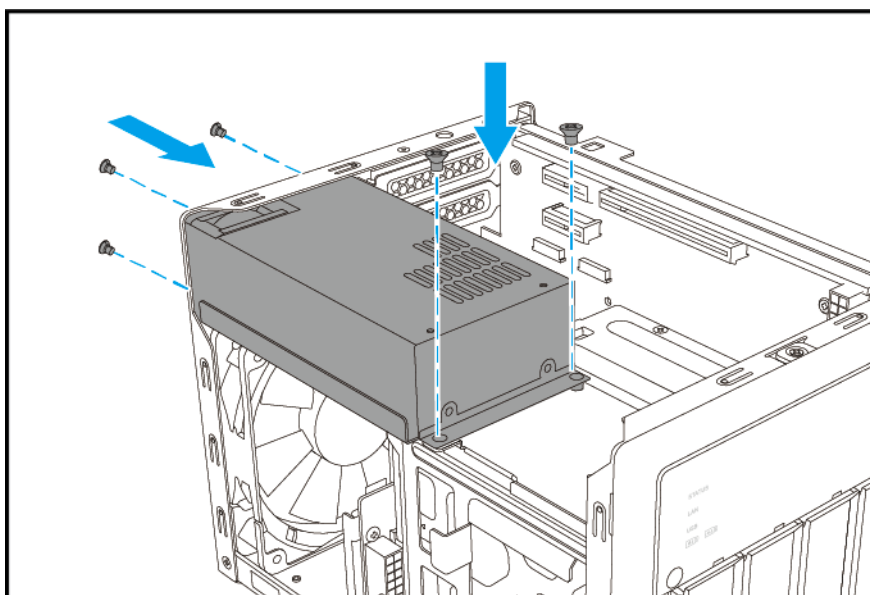


9. 安装电源单元。

- a. 将电源单元安装到机箱上。



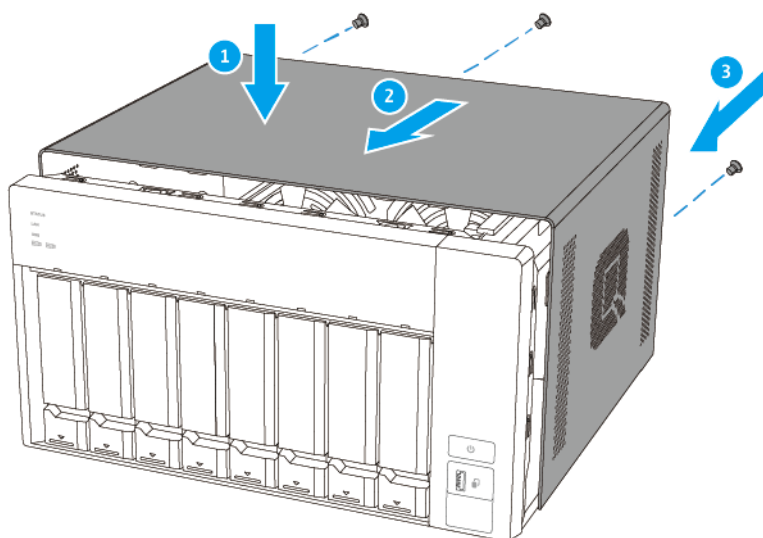
- b. 装上用于将电源单元固定到机箱的螺丝。



c. 连接电源线。

#### 10. 安装外壳盖。

- a. 向下滑动盖板，使其完全触及机箱。
- b. 将盖板向前滑动。
- c. 安装 NAS 背面的螺丝。



11. 连接所有线缆和外接部件。
12. 将电源线连接到插座。
13. 启动 NAS 电源。

## 更换内存模块

TVS-x72N 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。使用两个模块时，只能使用类型和容量均相同的 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。



### 警告

- 只有合格人员才能执行以下步骤。不遵守说明可能会导致重伤或死亡。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。

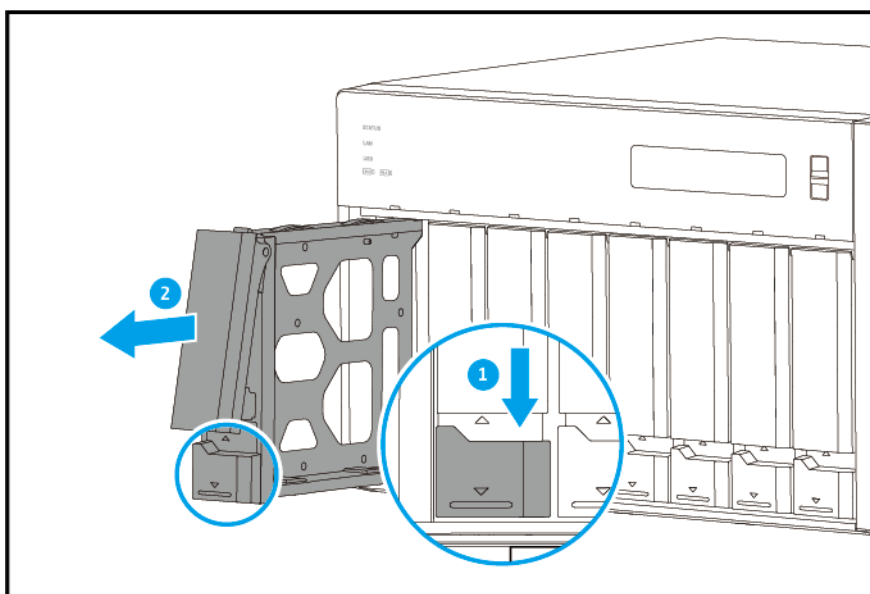


**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

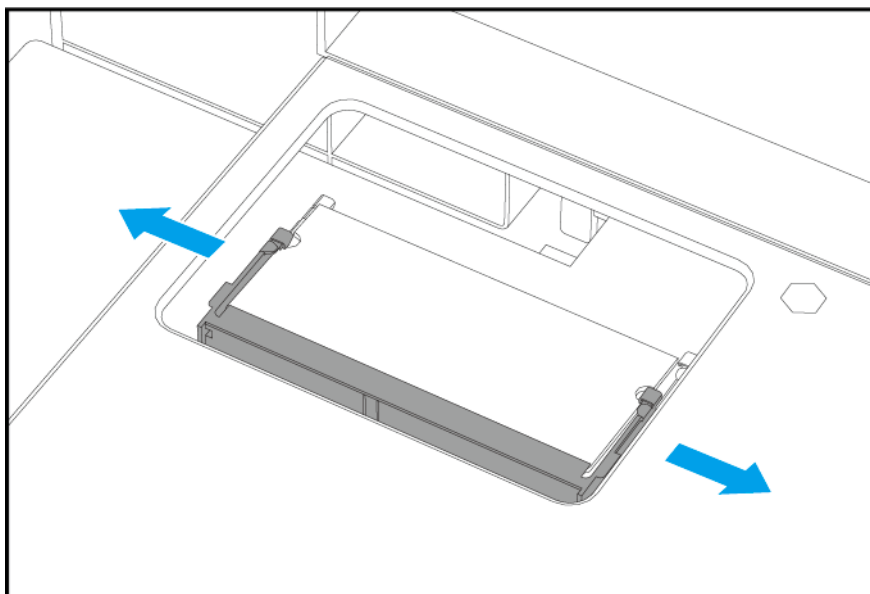


**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

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. 从 NAS 中取下每个硬盘托盘。
  - a. 向下滑动锁扣。
  - b. 向外拉动托盘手柄。
  - c. 拉出托盘。



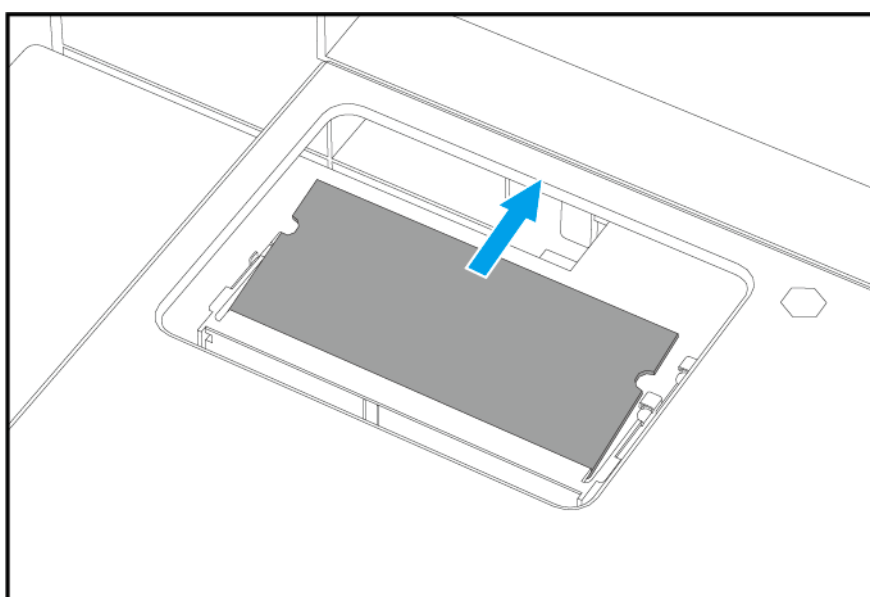
5. 将 NAS 右侧朝下放置。
6. 取下现有模块。
  - a. 同时向外推动固定夹以释放模块。



- b. 确认模块向上倾斜并已完全脱离插槽。
- c. 握住模块边缘，然后小心地将其从插槽中滑出。

**警告**

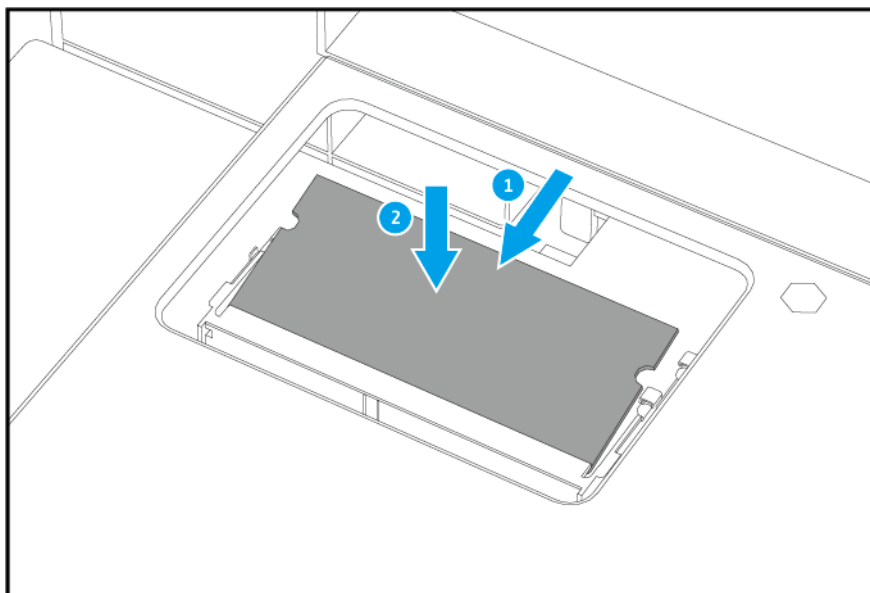
如果尝试在模块尚未完全脱离时将其取出，可能会损坏模块和主板。



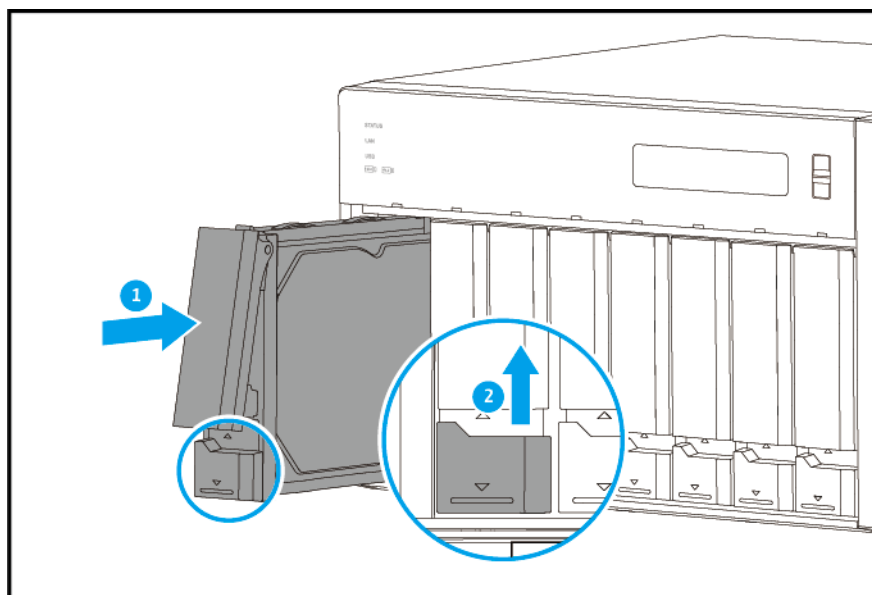
7. 安装新模块。



- 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。



8. 将 NAS 正常直立放置。
9. 将每个硬盘托盘装回 NAS。
  - a. 将托盘滑入硬盘架。
  - b. 推动手柄。
  - c. 向上滑动锁扣。



10. 连接所有线缆和外接部件。
11. 将电源线连接到插座。
12. 启动 NAS 电源。
13. 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。

## 4. QTS 安装

TVS-x72N 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>• 登录您的 myQNAPcloud 帐户。</li> <li>• 使用 CloudLink 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 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>
本地安装	<p>如果 NAS 支持 HDMI 输出，可以执行以下操作：</p> <ul style="list-style-type: none"> <li>• 将 NAS 连接到所需的硬件。</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 HDMI 连接安装 QTS</a>。</p>	<ul style="list-style-type: none"> <li>• 监视器</li> <li>• HDMI 线缆</li> <li>• USB 键盘或遥控器（仅部分型号提供）</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

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**

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 CloudLink 远程连接服务后，会将其禁用。通过 LAN 连接到 QTS，然后安装 CloudLink 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。

## 使用 HDMI 连接安装 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. 将 HDMI 显示器连接到 NAS。
2. 将 USB 键盘连接到 NAS 或准备好 QNAP 红外遥控器（仅部分型号提供）。
3. 启动 NAS 电源。  
此时会出现“智能安装指南”的**欢迎**屏幕。
4. 选择**启动智能安装指南**。
5. 选择**否，跳过此过程**。  
启用多媒体功能后，可以在“存储与快照总管”中配置磁盘后安装多媒体应用程序。  
有关在 QTS 上启用多媒体功能的详细信息，请参见《QTS 用户指南》的“系统管理”一节。
6. 选择**稍后配置**。  
有关配置磁盘的详细信息，请参见《QTS 用户指南》的“存储与快照总管”一节。
7. 检查设置。
8. 单击**下一步**。
9. 检查设置。
10. 单击**下一步**。  
此时会出现**确认**屏幕。



### 警告

单击**下一步**后，将先删除硬盘上的所有数据，然后再安装 QTS。


11. 单击**下一步**。  
QTS 即安装完毕。

## 5. 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。	以下设置将重置为默认值： <ul style="list-style-type: none"> <li>• 系统管理员密码：admin</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。	恢复默认出厂设置。 <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>

### USB 一键复制按钮

使用 USB 一键复制按钮，可以将数据备份从 USB 设备复制到 NAS，或将数据备份从 NAS 复制到 USB 设备。

此功能支持增量备份。NAS 只会复制在上次备份后修改或添加的文件。

## LCD 面板

通过 LCD 面板，可以执行以下操作：

- 重新启动和关闭 NAS
- 配置或更改 LCD 面板密码
- 查看和配置网络设置
- 查看系统、物理磁盘和卷的相关信息

## 查看 TCP/IP 设置

您可以查看 NAS 上每个网络适配器的以下设置：

- IP 地址
  - 子网掩码
  - 默认网关
  - 主 DNS
  - 辅助 DNS
1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本。
  2. 按住 **Enter** (确认) 两秒钟。  
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
  3. 按住 **Enter** (确认)。  
面板会显示第一个网络适配器的 IP 地址。
  4. 按住 **Select** (选择) 以查看下一个 TCP/IP 屏幕。
  5. 可选: 根据需要重复第 4 步。

## 配置 TCP/IP 设置

您可以为 NAS 上的每个网络适配器配置以下设置：

- IP 地址
  - 子网掩码
  - 默认网关
  - 主 DNS
  - 辅助 DNS
1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本
  2. 按住 **Enter** (确认) 两秒钟。



面板会显示 Main Menu 1.TCP/IP（主菜单 1. TCP/IP）。

3. 按住 **Enter**（确认）。  
面板会显示第一个网络适配器的 IP 地址。
4. 反复按 **Select**（选择），直到面板显示 Enter Network Settings（输入网络设置）。
5. 按住 **Enter**（确认）。  
面板会显示可配置的网络设置。
6. 按 **Select**（选择）和 **Enter**（确认）以配置设置。

按钮	用途
<b>Enter</b>	<ul style="list-style-type: none"> <li>• 显示配置屏幕。</li> <li>• 移动到配置屏幕中的下一个项目。</li> </ul>
<b>Select</b>	<ul style="list-style-type: none"> <li>• 移动到菜单中的下一个项目。</li> <li>• 修改配置屏幕上的值。</li> </ul>

## 查看硬盘信息

LCD 面板可以显示 NAS 中安装的每个硬盘的温度和容量。

1. 按 **Enter**（确认）或 **Select**（选择）。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter**（确认）两秒钟。  
面板会显示 Main Menu 1.TCP/IP（主菜单 1. TCP/IP）。
3. 反复按 **Enter**（确认），直到面板显示 Main Menu 2.Physical disk（主菜单 2. 物理磁盘）。
4. 按住 **Enter**（确认）。  
面板会显示插槽 1 中安装的硬盘的温度和容量。
5. 按住 **Select**（选择）。  
面板会显示下一个硬盘的温度和容量。
6. 根据需要重复第 5 步。

## 查看卷信息

LCD 面板可以显示每个卷的名称和容量。

1. 按 **Enter**（确认）或 **Select**（选择）。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter**（确认）两秒钟。  
面板会显示 Main Menu 1.TCP/IP（主菜单 1. TCP/IP）。
3. 反复按 **Enter**（确认），直到面板显示 Main Menu 3.Volume（主菜单 3. 卷）。
4. 按住 **Enter**（确认）。  
面板会显示第一个卷的名称和容量。
5. 按住 **Select**（选择）。  
面板会显示下一个卷的名称和容量。

6. 可选: 根据需要重复第 5 步。

## 查看系统信息

LCD 面板可显示 CPU 温度、系统温度和系统风扇转速。

1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。  
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 4.System (主菜单 4. 系统)。
4. 按住 **Enter** (确认)。  
面板会显示 CPU 和系统温度
5. 按住 **Select** (选择)。  
面板会显示系统风扇转速。

## 关闭 NAS 电源

1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。  
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 5.Shut down (主菜单 5. 关闭)。
4. 按住 **Enter** (确认)。  
NAS 关机。

## 重新启动 NAS

1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。  
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 6.Reboot (主菜单 6. 重启)。
4. 按住 **Enter** (确认)。  
NAS 将重新启动。

## 更改 LCD 密码

为 LCM 面板指定密码可以防止未经授权的访问。

1. 按 **Enter** (确认) 或 **Select** (选择)。  
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。  
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 7.Password (主菜单 7. 密码)。

4. 按住 **Enter** (确认)。  
此时会显示 Change Password (更改密码) 屏幕。
5. 按住 **Enter** (确认) 选择 **Yes** (是)。  
此时会显示 New Password (新密码) 屏幕。
6. 按 **Select** (选择) 和 **Enter** (确认) 指定新密码。
  - 指定密码。
  - 指定 1 至 8 个字符的密码。密码只能包含数字 (0 至 9)。
  - 要移除密码, 请将密码字段设置为空白。

按钮	用途
Enter	移动到 New Password (新密码) 屏幕中的下一个项目。
Select	更改 New Password (新密码) 和 Verify Password (验证密码) 屏幕中的数字。

7. 按 **Enter** (确认)。  
NAS 会保存密码。

## LCD 错误消息

系统消息	描述
Sys.Fan Failed (系统风扇故障)	系统风扇有故障。
Sys.Overheat (系统过热)	系统温度过高。
HDD Overheat (硬盘过热)	硬盘温度过高。
CPU Overheat (CPU 过热)	CPU 温度过高。
Network Lost (网络丢失)	LAN1、LAN2、LAN3 和 LAN4 在故障转移或负载平衡模式下断开连接。
LAN1 Lost (LAN1 丢失)	LAN1 已断开连接。
LAN2 Lost (LAN2 丢失)	LAN2 已断开连接。
LAN3 Lost (LAN3 丢失)	LAN3 已断开连接。
LAN4 Lost (LAN4 丢失)	LAN4 已断开连接。
HDD Failure (硬盘故障)	硬盘出现故障。
Vol1 Full (Vol1 已满)	卷已满。
HDD Ejected (硬盘弹出)	硬盘已弹出。
Vol1 Degraded (Vol1 已降级)	卷 1 处于降级模式。
Vol1 Unmounted (Vol1 已卸载)	卷 1 已卸载。
Vol1 Nonactive (Vol1 未激活)	卷 1 处于非活动状态。

## 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	闪烁红色	正在访问数据，但在此过程中发生读/写错误。
	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。
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 NAS。

LED	状态	描述
USB	闪烁蓝色，间隔 0.5 秒	<ul style="list-style-type: none"> <li>检测到 USB 设备（已连接到前 USB 端口）。</li> <li>正在从 NAS 移除 USB 设备（已连接到前 USB 端口）。</li> <li>正在访问 USB 设备（已连接到 NAS 的前 USB 端口）。</li> <li>正在与 USB 或 eSATA 设备间复制数据。</li> </ul>
	蓝色	在前 USB 端口中检测到 USB 设备。
	熄灭	<ul style="list-style-type: none"> <li>未检测到 USB 设备。</li> <li>NAS 已经完成与连接到前 USB 端口的 USB 设备间的数据复制。</li> </ul>

## 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>

## 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 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

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 QTS。
2. 转到主菜单 > 存储与快照总管 > 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/快照。
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>
服务台	<a href="https://helpdesk.qnap.com">https://helpdesk.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

### **CloudLink**

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 CloudLink

### **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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END OF TERMS AND CONDITIONS



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### FCC B 类声明



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VCCI - B

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## SJ/T 11364-2006



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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
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