



QNAP

TS-351

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-351 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 TS-351 NAS 的基本信息。

关于 TS-351

TS-351 配有 Intel® Celeron® J1800 双核 2.4 GHz 处理器，可支持高达 8 GB 的 DDR3L 内存。TS-351 具有 HDMI 连接，可支持多媒体，还特有 USB 一键复制功能，可实现方便高效的备份和同步。除了两个内存插槽外，TS-351 还有两个 M.2 PCIe SSD 插槽，可满足您的数据管理需求。





硬件规格



重要

修改 QNAP 产品的硬件或软件会使保修失效。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。

组件	TS-351
订购信息	
订购部件号	<ul style="list-style-type: none"> • TS-351-2G • TS-351-4G
处理器	
CPU	Intel® Celeron® J1800
频率	双核 2.41 GHz 基本/2.58 GHz 脉冲
架构	64 位 x86
显卡	Intel® HD Graphics
内存	
预安装内存	<ul style="list-style-type: none"> • 2 GB RAM: 1 x 2 GB DDR3L • 4 GB RAM: 1 x 4 GB DDR3L <p>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。</p>
内存插槽总数	2 x SODIMM DDR3L
最大内存	8 GB RAM: 2 x 4 GB
闪存	512 MB USB DOM
存储	
硬盘架	3 x 3.5 英寸 SATA: <ul style="list-style-type: none"> • 硬盘架 1 和 2: SATA 3 Gbps • 硬盘架 3: SATA 6 Gbps

组件	TS-351
硬盘兼容性	<ul style="list-style-type: none"> • 3.5 英寸 SATA 机械硬盘 • 2.5 英寸 SATA 机械硬盘 • 2.5 英寸 SATA 固态硬盘 <p> 注 TS-351 硬盘托盘架需要另配硬盘托盘底座才能安装 2.5 英寸 SATA 硬盘。 您可以从 QNAP 或授权经销商处购买托盘底座。有关详细信息，请转到 https://shop.qnap.com/。</p>
可热插拔	是
M.2 SSD 插槽	2 x PCIe NVMe 2.0 x1, 5 Gbps
M.2 SSD 外形规格	2280
SSD 缓存加速支持	<p>是</p> <p> 注</p> <ul style="list-style-type: none"> • 硬盘架 1 和 2 不支持 SSD 缓存加速。 • SSD 缓存硬盘不可热插拔。 • M.2 SSD 不可热插拔。
网络	
千兆位以太网端口	1 x 千兆位 RJ45
外部 I/O 端口和扩展插槽	
USB 端口	<ul style="list-style-type: none"> • 正面: 1 x USB 3.0 A 型 <p> 注 此 USB 端口支持一键复制。</p> <ul style="list-style-type: none"> • 背面: 2 x USB 2.0 A 型
HDMI 输出	1 x HDMI 1.4a
音频	<ul style="list-style-type: none"> • 1 个 3.5 mm 线路输出插孔 • 1 x 扬声器 <p> 注 扬声器和线路输出插孔不能同时使用。</p>
接口	
按钮	<ul style="list-style-type: none"> • 电源 • 重置 • USB 一键复制
尺寸	
外形规格	立式
尺寸 (高 x 宽 x 深)	142 x 150 x 260.1 mm (5.59 x 5.90 x 10.24 英寸)
净重	1.64 kg (3.62 磅)

组件	TS-351
其他	
电源单元	65W, 100-240V AC, 50/60 Hz
系统电池	CR2032 锂电池 (3V, 225 mAh)  警告 为避免潜在伤害或组件的损坏, 请确保使用同型电池更换现有电池。
噪声声级	21.8 dB(A)  注 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: 1 x 90 mm, 12V DC 智能风扇  警告 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。
工作温度	0°C 至 40°C (32 至 104°F)
相对湿度	<ul style="list-style-type: none"> 无冷凝相对湿度: 5% 至 95% 湿球温度: 27°C (80.6°F)
安全锁孔	Kensington 安全锁孔

**提示**

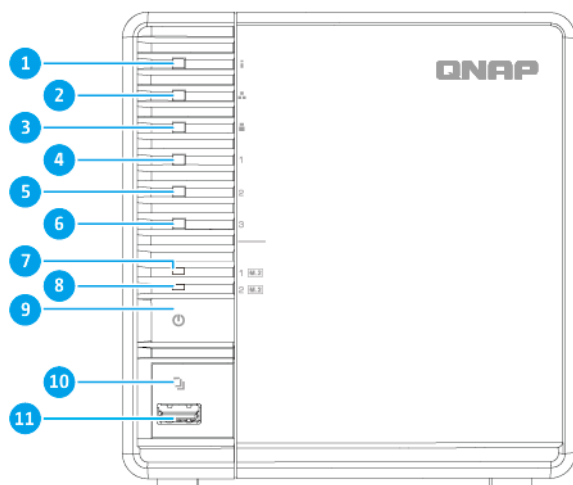
型号规格如有更改, 恕不另行通知。要查看最新规格, 请转到 <https://www.qnap.com>。

包装内容

项目	数量
TS-351 NAS	1
硬盘托盘架销钉	3
交流电源适配器	1
电源线	1
以太网线	1
M.2 SSD 散热片	2
《快速安装指南 (QIG)》	1

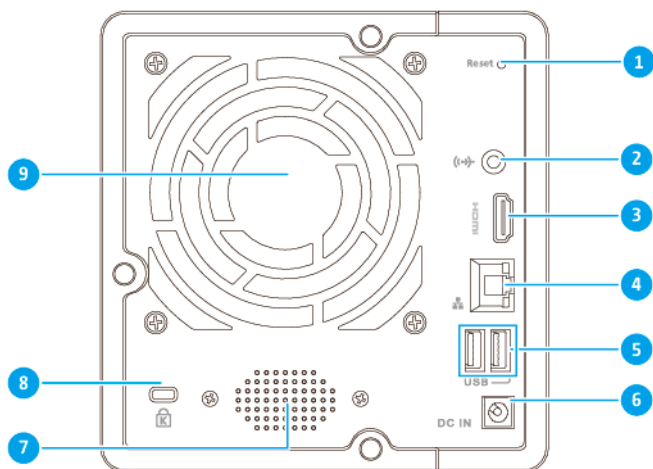
组件

前面板



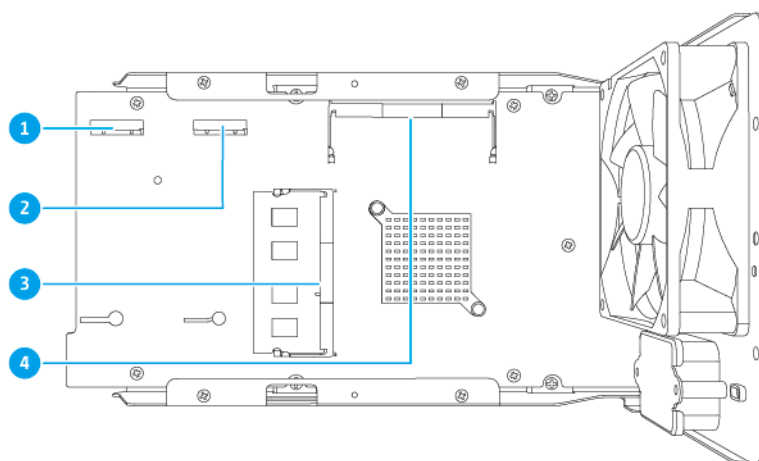
编号	组件	编号	组件
1	状态 LED	7	M.2 SSD 1 LED
2	LAN LED	8	M.2 SSD 2 LED
3	USB LED	9	电源按钮
4	硬盘 1 LED	10	USB 一键复制按钮
5	硬盘 2 LED	11	USB 一键复制端口
6	硬盘 3 LED	-	-

后面板



编号	组件	编号	组件
1	重置按钮	6	电源输入
2	3.5 毫米线路输出插孔	7	扬声器
3	HDMI 1.4a 端口	8	Kensington 安全锁孔
4	千兆位以太网 RJ45 端口	9	智能风扇
5	USB 2.0 A 型端口	-	-

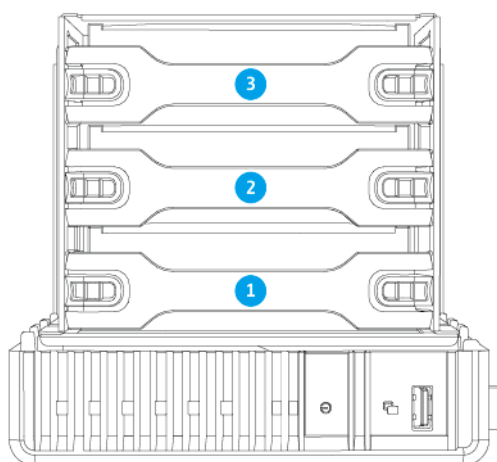
系统主板



注
此图不含机箱。

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

正面硬盘编号



注
此图所示为左侧向下放置的 NAS。

安装要求

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

设置 NAS

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. 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和更换内存模块的信息。

硬盘安装

TS-351 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。

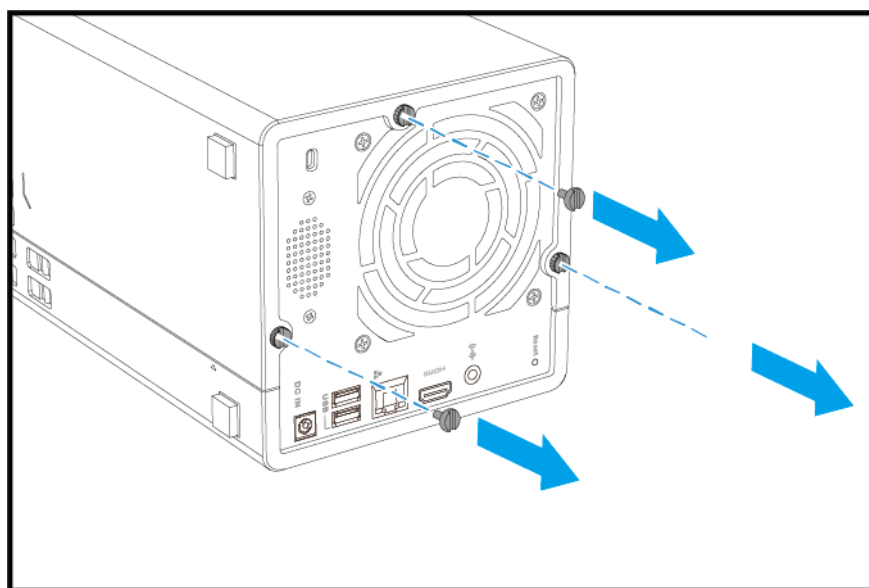
在 3.5 英寸托盘上安装 3.5 英寸硬盘



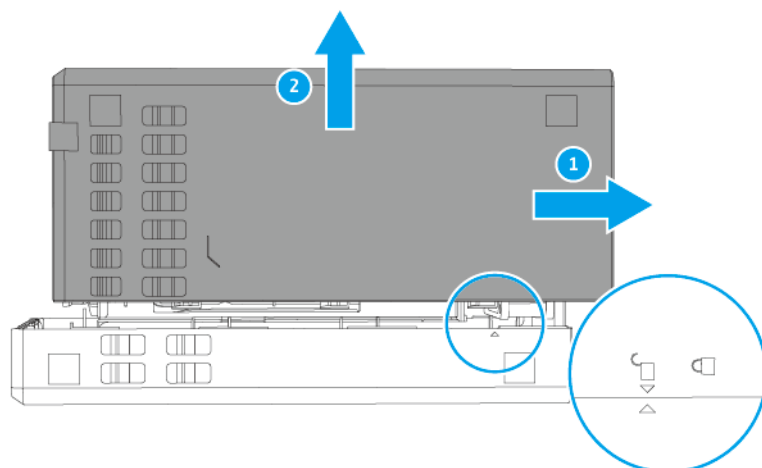
警告

- 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. 取下外壳盖。
 - a. 将 NAS 左侧朝下放置。
 - b. 卸下用于将外壳盖固定到机箱的螺丝。

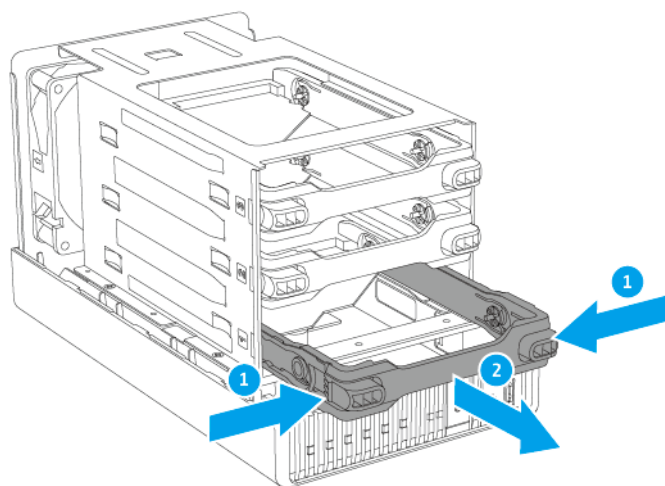


- c. 将盖板向右滑动，使其完全脱离机箱。
- d. 从 NAS 上提起盖板。



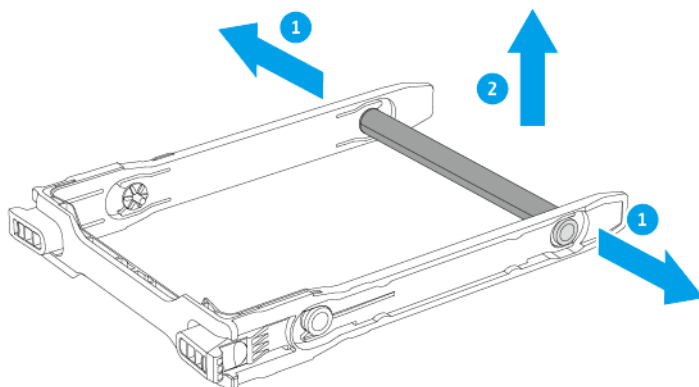
3. 取下硬盘托盘架。

- a. 捏紧固定夹。
- b. 拉出托盘架。

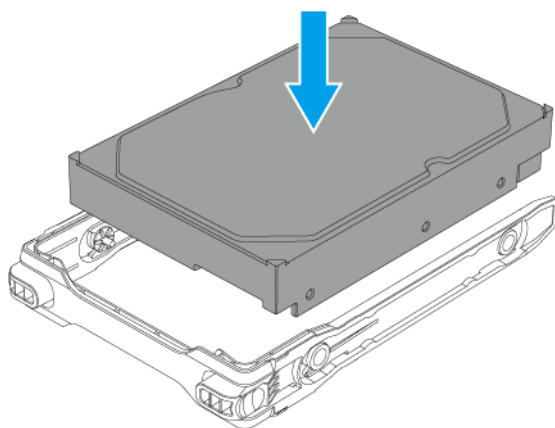


4. 将硬盘安装到硬盘托盘架上。

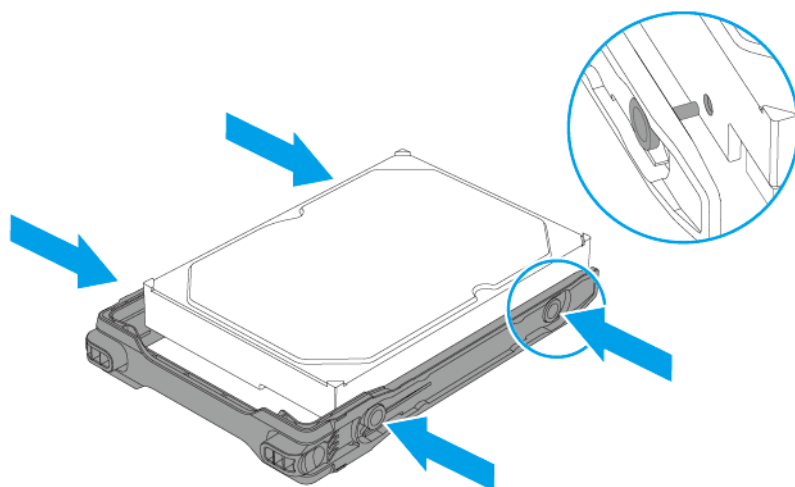
- a. 轻拉托盘架的两侧，释放连杆。
- b. 取下连杆。



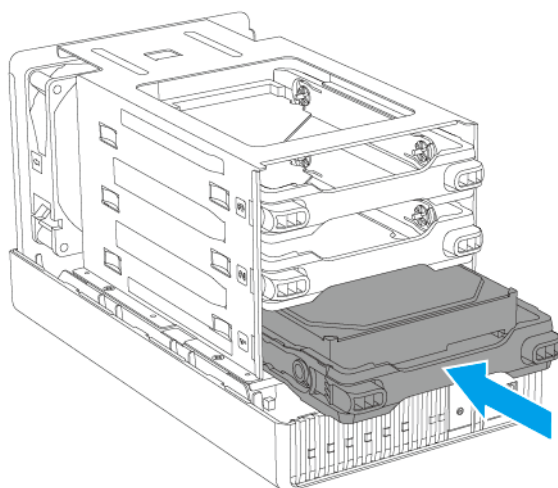
- c. 将硬盘放在托盘架中。



- d. 将硬盘上的孔对准托盘架销钉。
e. 插入销钉。

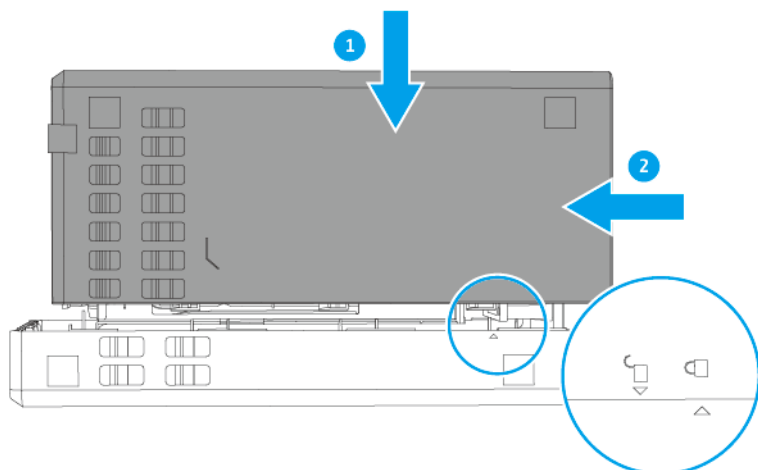


5. 将硬盘托盘架滑入硬盘架。

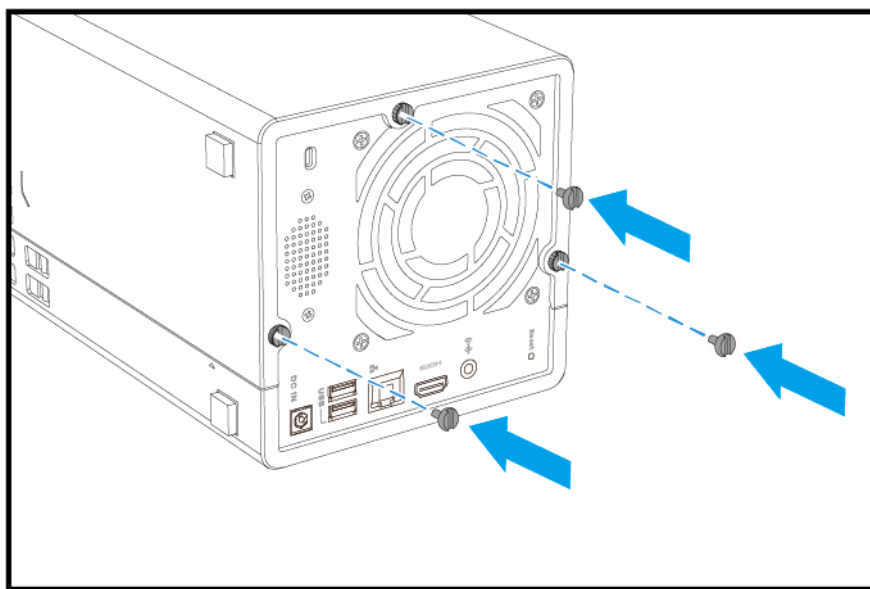


6. 安装外壳盖。

- a. 将盖板放在 NAS 上。
- b. 将盖板与外壳上的凹槽对齐。
- c. 将盖板向左滑动，将其固定到机箱。



d. 安装 NAS 背面的螺丝。



e. 将 NAS 正常直立放置。

7. 启动 NAS 电源。

在 3.5 英寸托盘上安装 2.5 英寸硬盘



重要

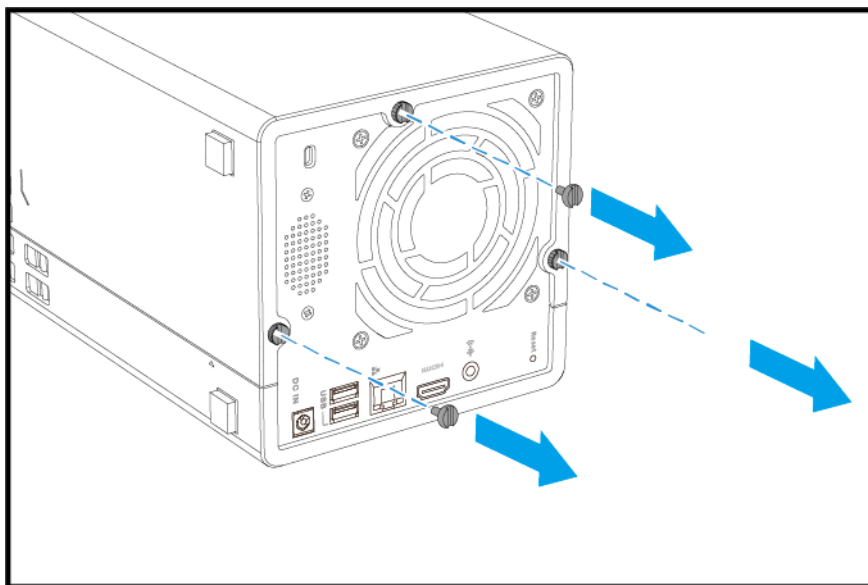
TS-351 硬盘托盘架需要另配 2.5 英寸硬盘托盘底座才能安装 2.5 英寸硬盘。托盘底座是可选件，需单独购买，TS-351 包装中不含此部件。您可以从 QNAP 或授权经销商处购买托盘底座。有关详细信息，请转到 <https://shop.qnap.com/>。



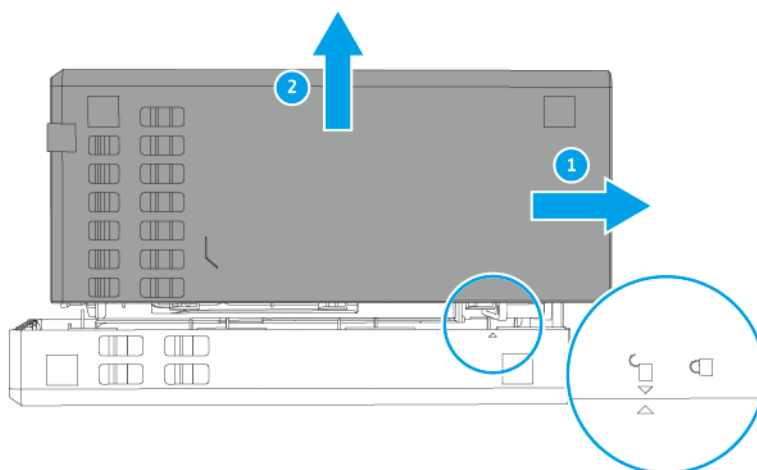
警告

- 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. 取下外壳盖。
 - a. 将 NAS 左侧朝下放置。
 - b. 卸下用于将外壳盖固定到机箱的螺丝。

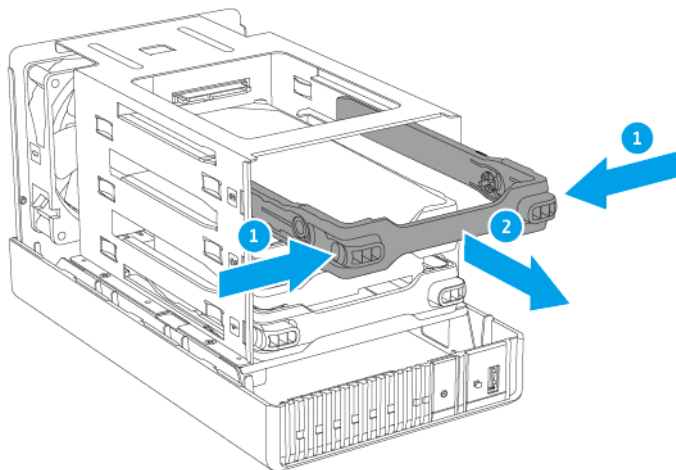


- c. 将盖板向右滑动，使其完全脱离机箱。
- d. 从 NAS 上提起盖板。

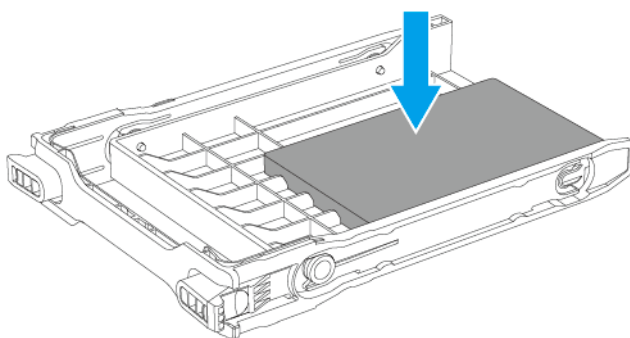


3. 取下硬盘托盘架。

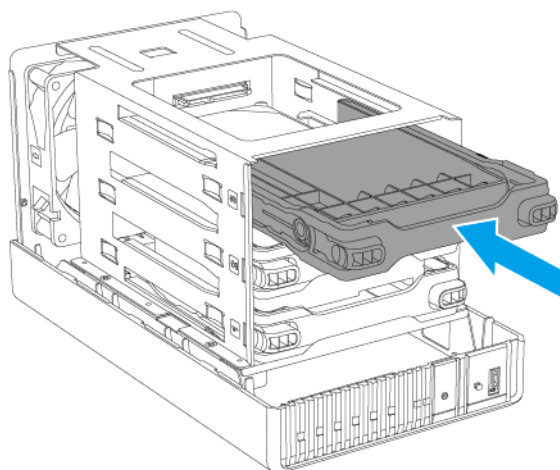
- a. 捏紧固定夹。
- b. 拉出托盘架。



4. 安装 2.5 英寸硬盘托盘底座。
有关详细信息，请参见[安装 2.5 英寸硬盘托盘底座](#)。
5. 将硬盘安装在托盘上。

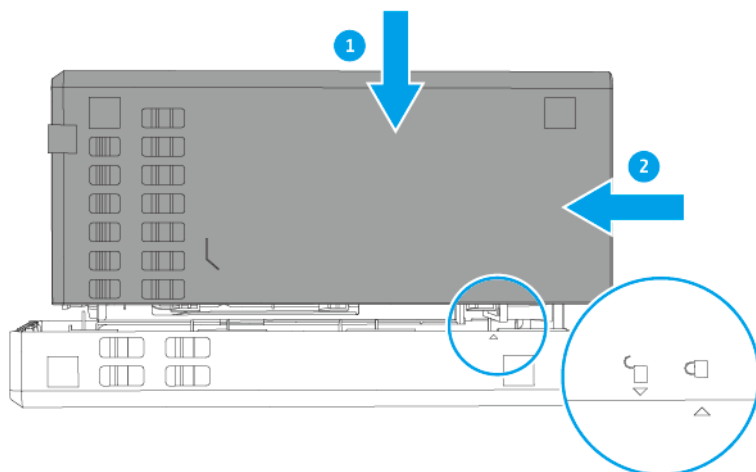


6. 将托盘滑入硬盘架。

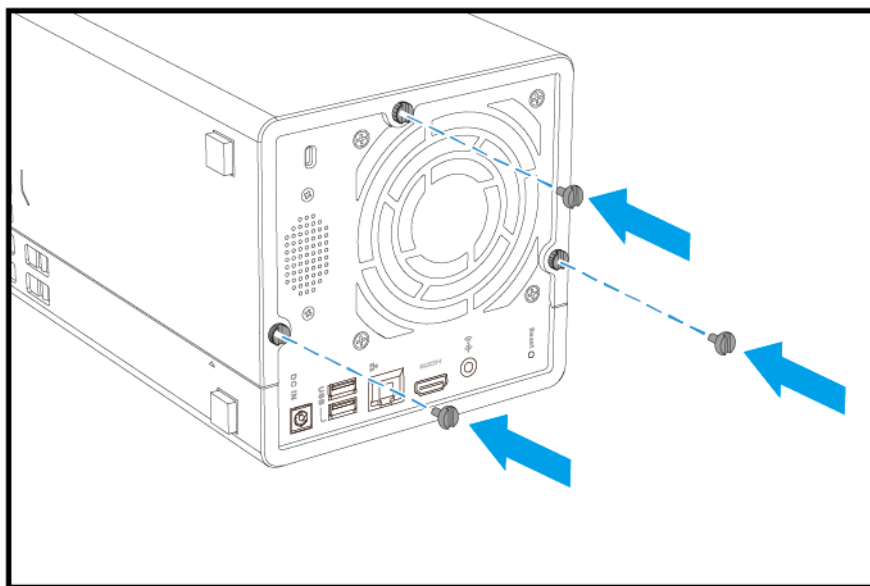


7. 安装外壳盖。

- a. 将盖板放在 NAS 上。
- b. 将盖板与外壳上的凹槽对齐。
- c. 将盖板向左滑动，将其固定到机箱。



- d. 安装 NAS 背面的螺丝。

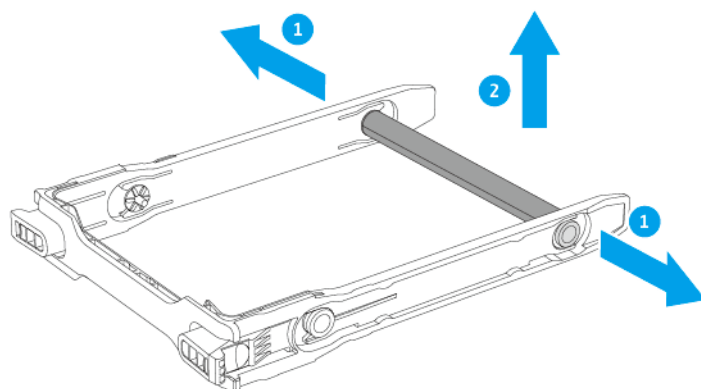


e. 将 NAS 正常直立放置。

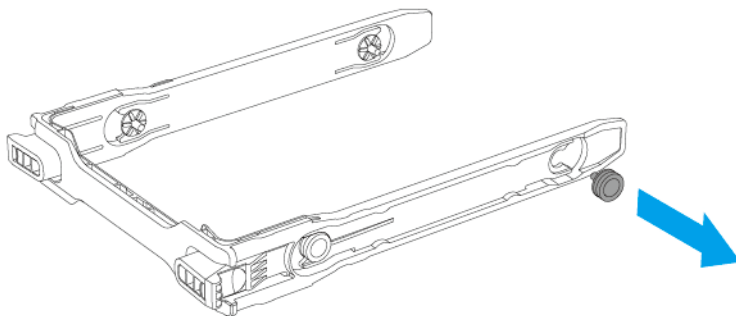
8. 启动 NAS 电源。

安装 2.5 英寸硬盘托盘底座

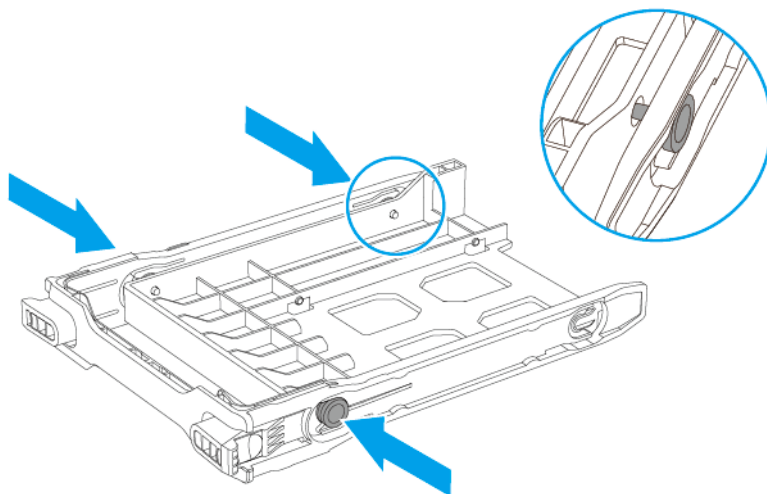
1. 轻拉硬盘托盘架的两侧，释放连杆。
2. 取下连杆。



3. 取下托盘架右后方的销钉。

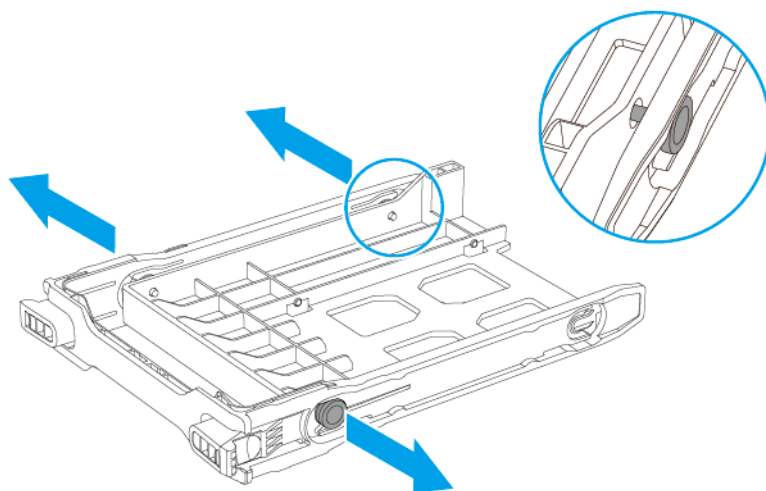


4. 将托盘底座上的孔对准托盘架销钉。
5. 将销钉插入托盘底座。

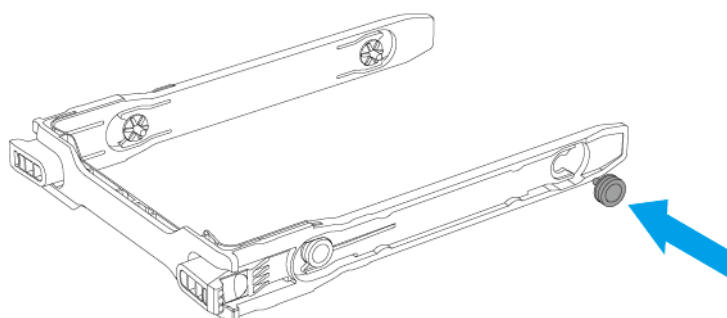


取下 2.5 英寸硬盘托盘底座

1. 轻拉硬盘托盘架的两侧，从托盘底座上取下销钉。



2. 将右后方的销钉插入托盘架。



安装 M.2 固态硬盘

TS-351 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。

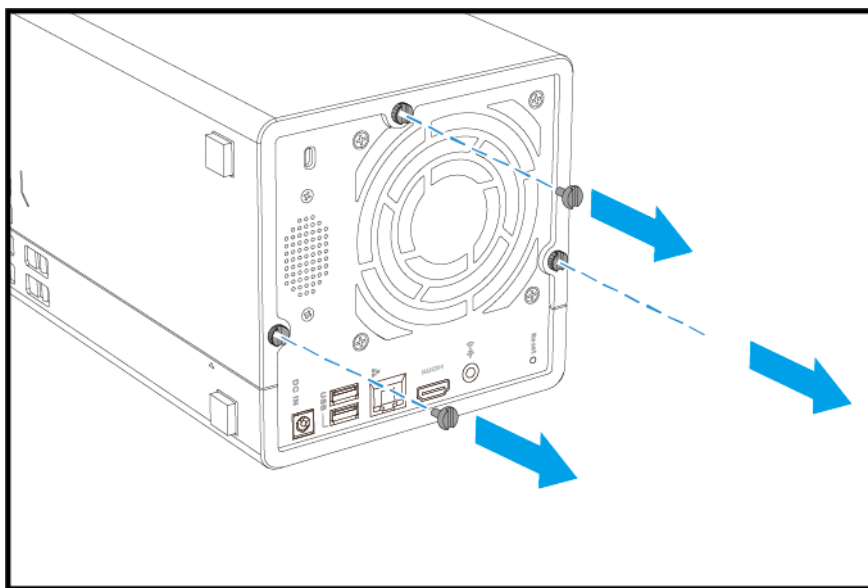
安装非 QNAP 出品的散热片前，请确保该散热片的尺寸和外形合适。



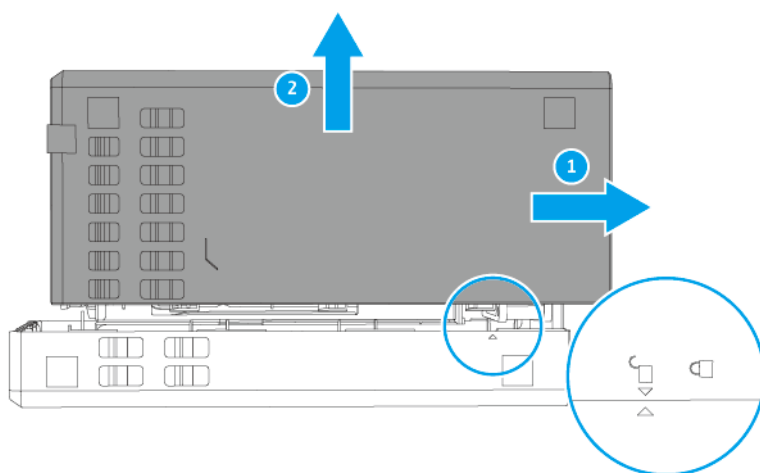
警告

- 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。

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. 将 NAS 左侧朝下放置。
 - b. 卸下用于将外壳盖固定到机箱的螺丝。

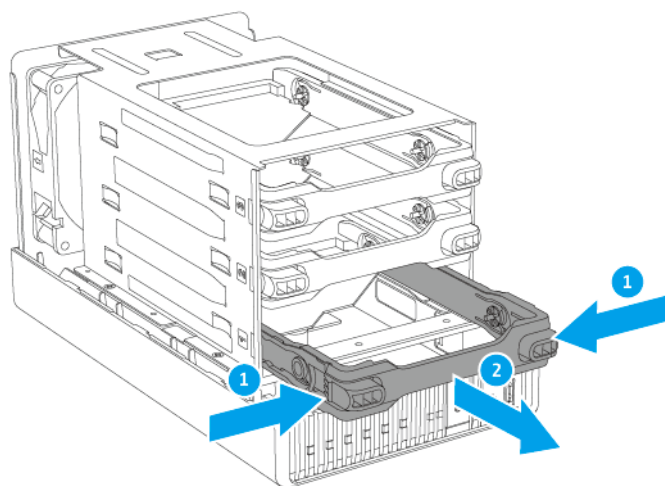


- c. 将盖板向右滑动，使其完全脱离机箱。
- d. 从 NAS 上提起盖板。



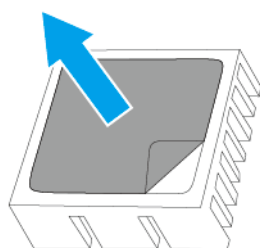
5. 取下每个硬盘托盘架。

- a. 捏紧固定夹。
- b. 拉出托盘架。

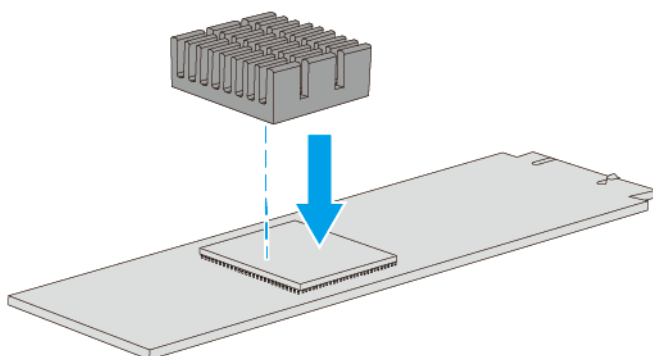


6. 在 M.2 SSD 控制器上安装散热片。

- a. 在 M.2 SSD 上找到控制器。
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。



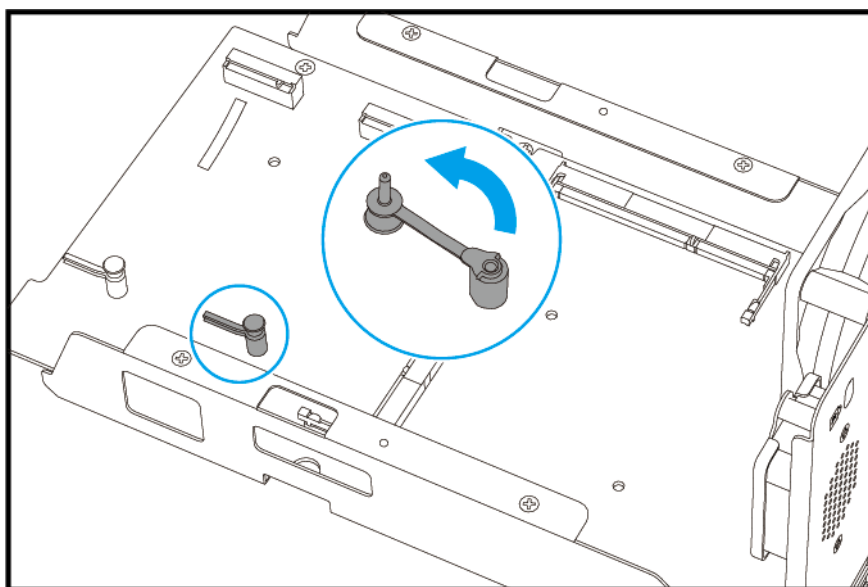
7. 安装 M.2 SSD。



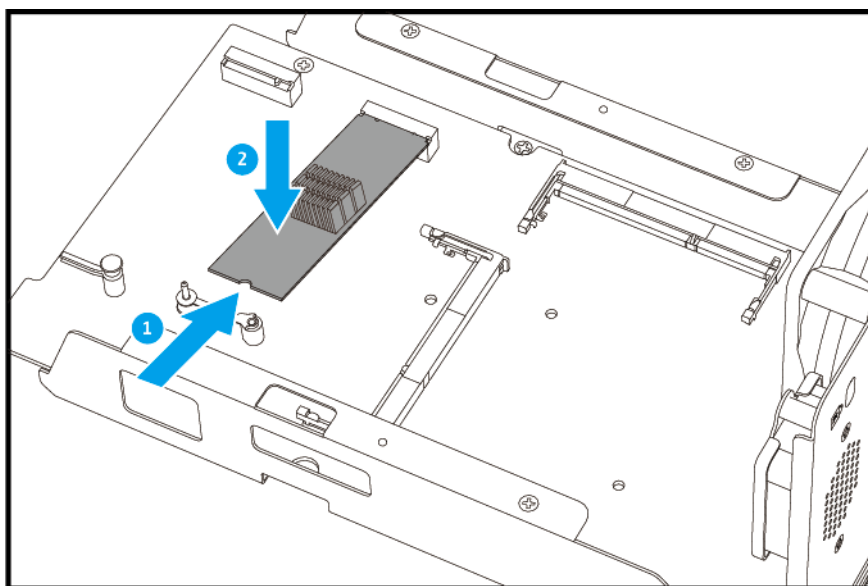
注

以下安装图不含机箱。

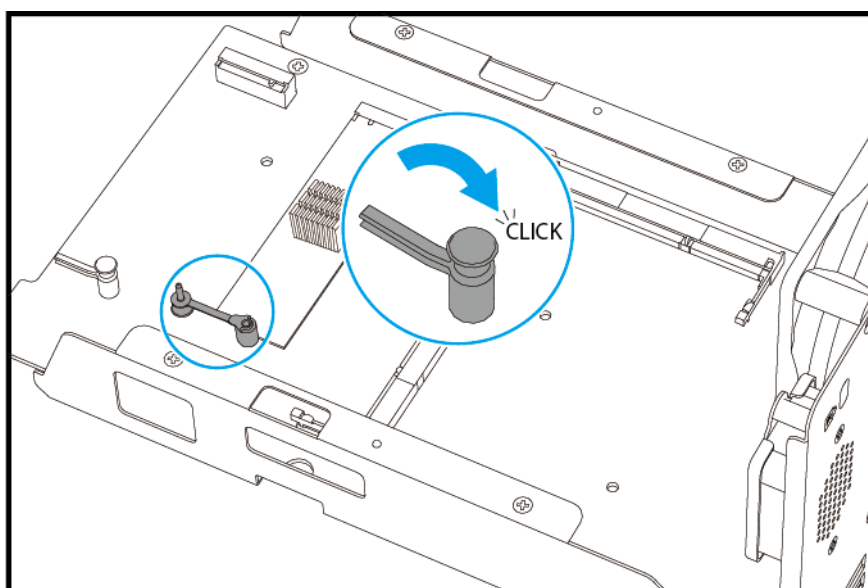
a. 拉开固定扣。



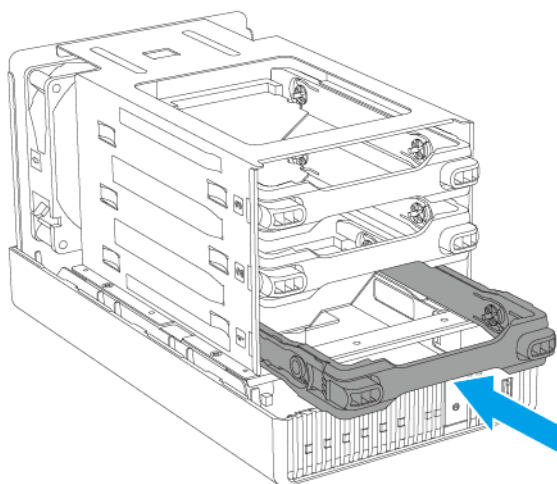
b. 插入 M.2 SSD。



c. 插入固定扣，固定硬盘。

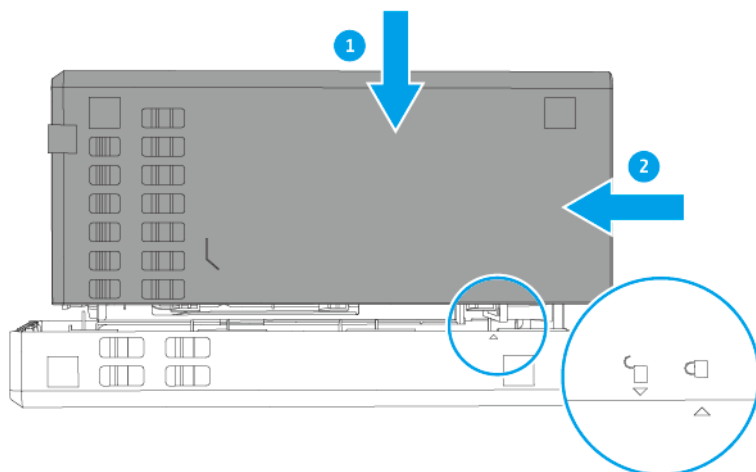


8. 可选: 安装另一个 M.2 SSD。
9. 将每个硬盘托盘架滑入 NAS。

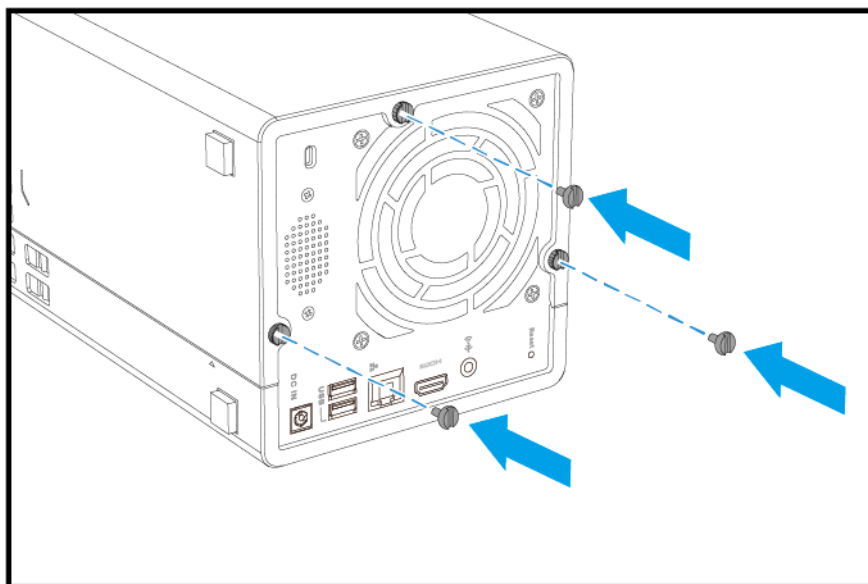


10. 安装外壳盖。

- a. 将盖板放在 NAS 上。
- b. 将盖板与外壳上的凹槽对齐。
- c. 将盖板向左滑动，将其固定到机箱。



- d. 安装 NAS 背面的螺丝。



e. 将 NAS 正常直立放置。

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

TS-351 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 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

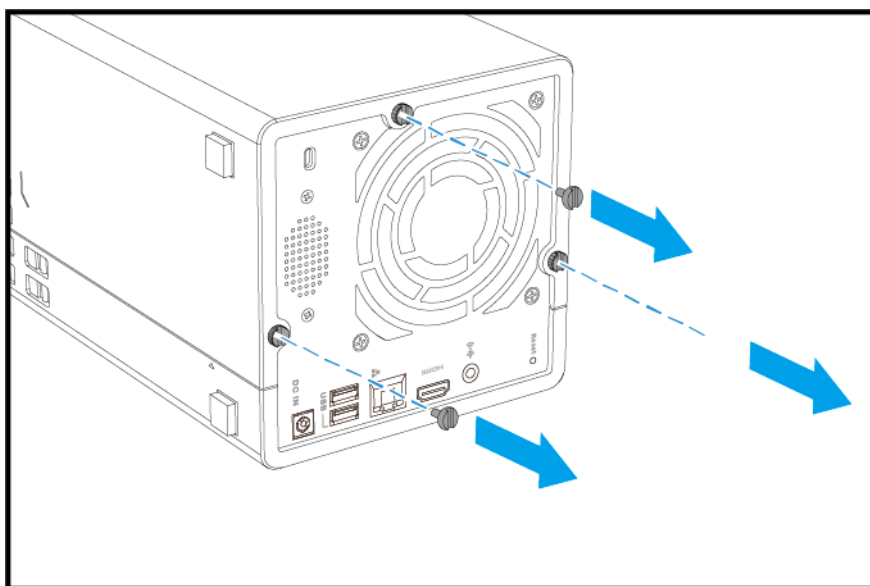
TS-351 随附一个内存模块预装在内存插槽 1 中。只安装一个模块时，请确保将其安装在内存插槽 1 中。只有一个内存模块时，如安装在内存插槽 2 中，NAS 将无法运行。



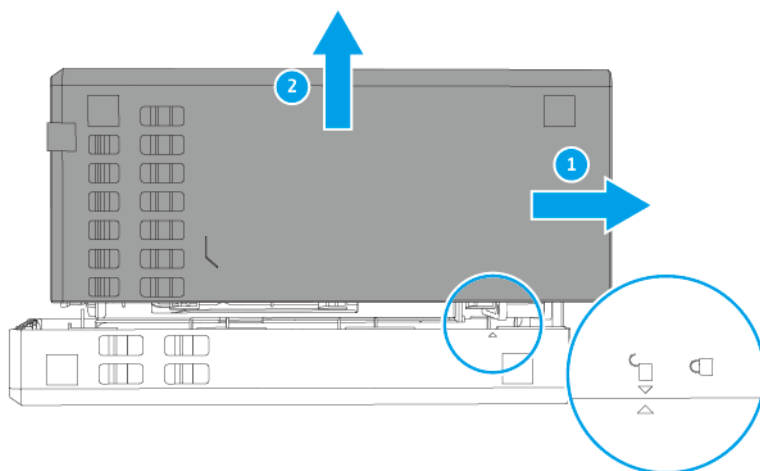
警告

- 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。

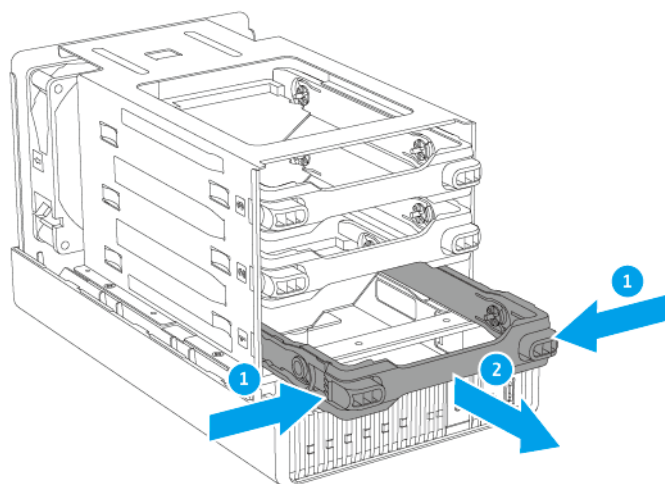
1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。
 - a. 将 NAS 左侧朝下放置。
 - b. 卸下用于将外壳盖固定到机箱的螺丝。



- c. 将盖板向右滑动，使其完全脱离机箱。
- d. 从 NAS 上提起盖板。



- 5. 取下每个硬盘托盘架。
 - a. 捏紧固定夹。
 - b. 拉出托盘架。



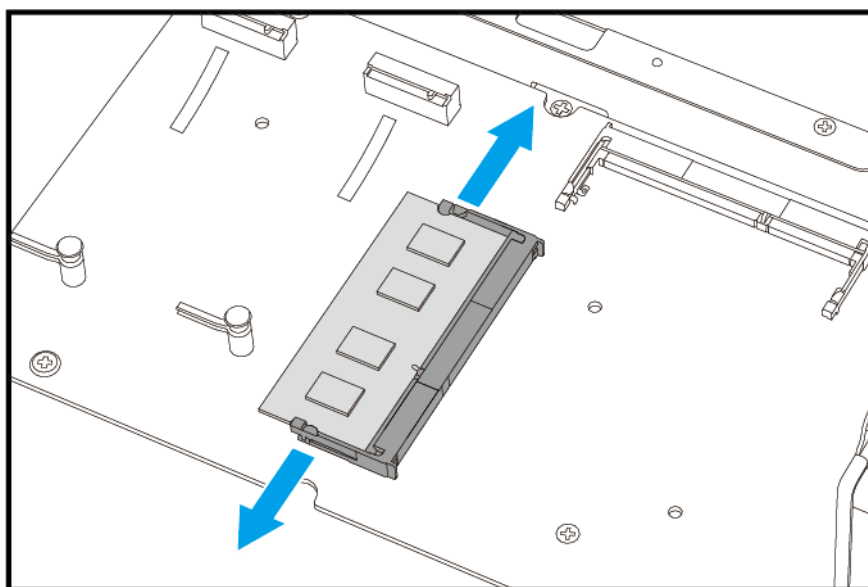
6. 取下现有模块。



注

以下安装图不含机箱。

- a. 同时向外推动固定夹以释放模块。



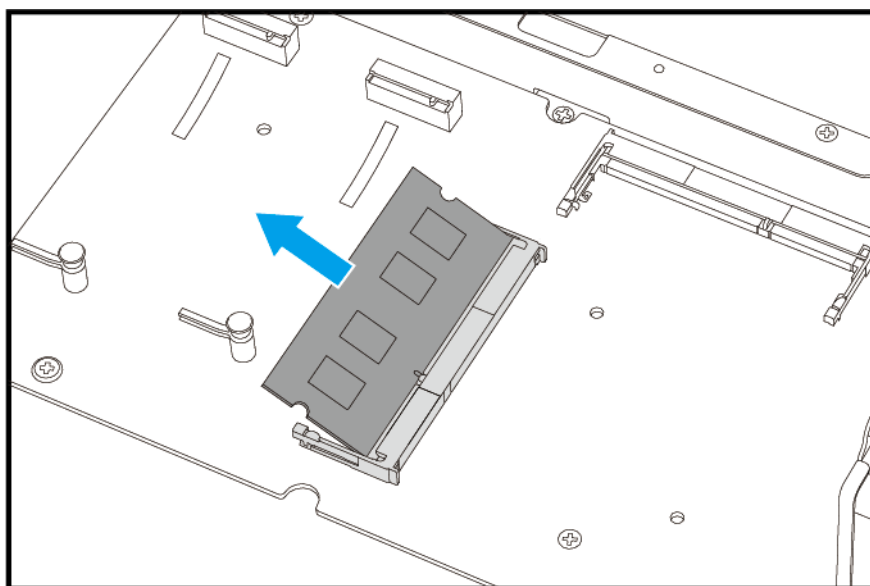
- b. 确认模块向上倾斜并已完全脱离插槽。



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，然后小心地将其从插槽中拔出。

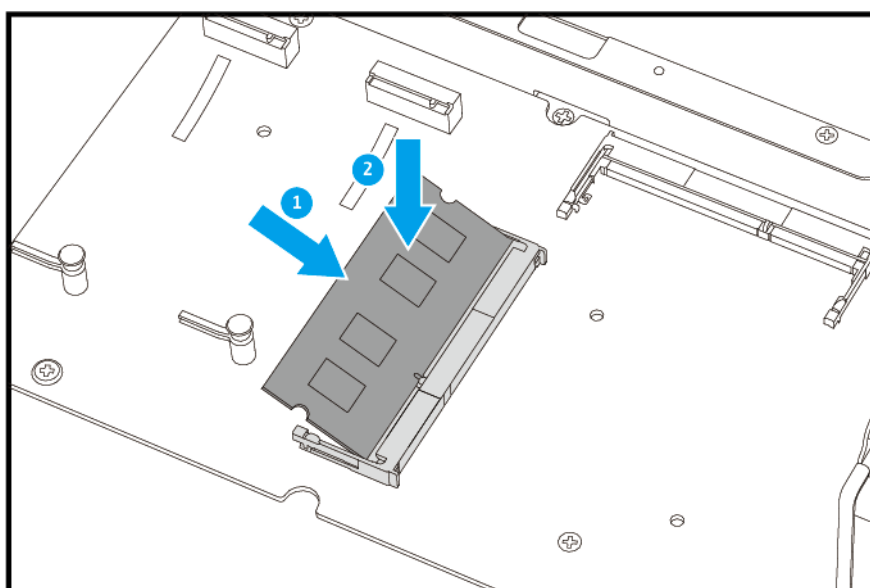


警告

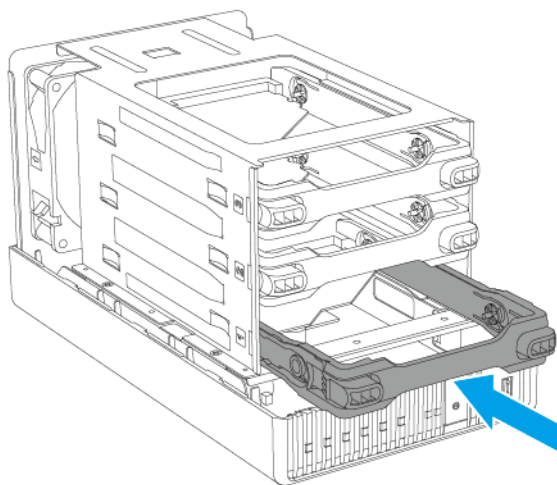
- 请勿触摸组件，特别是金属接头。
- 不要折弯模块。

7. 安装新模块。

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

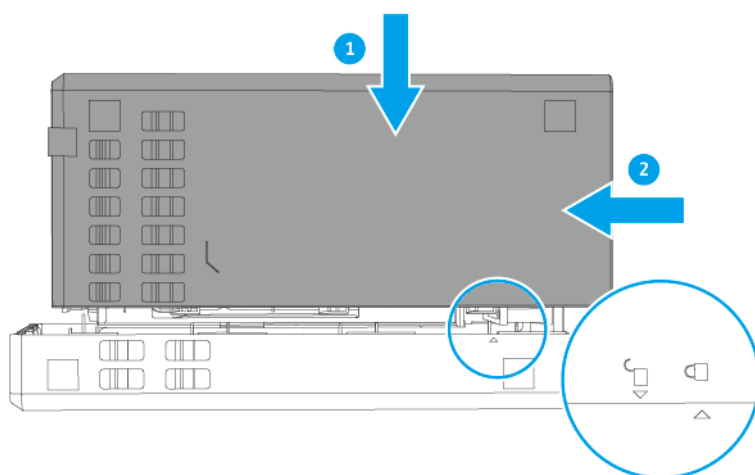


8. 将每个硬盘托盘架滑入 NAS。

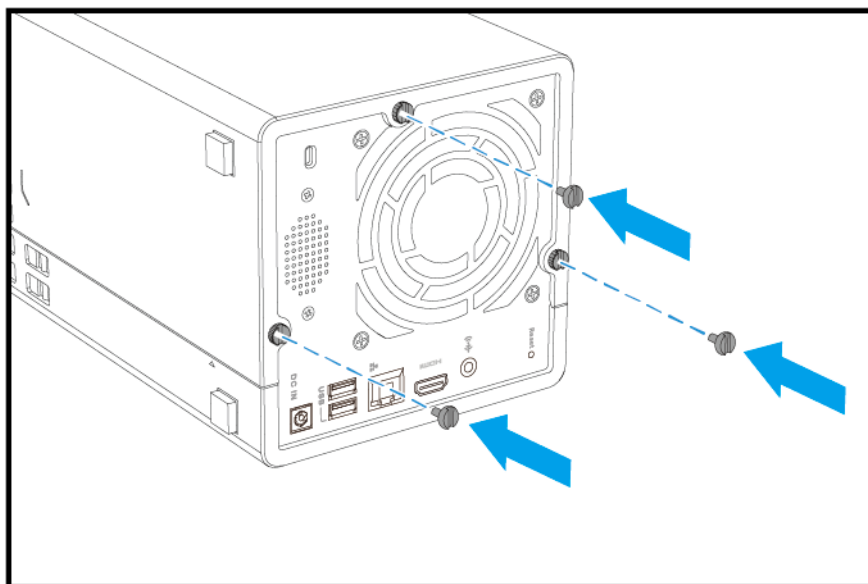


9. 安装外壳盖。

- a. 将盖板放在 NAS 上。
- b. 将盖板与外壳上的凹槽对齐。
- c. 将盖板向左滑动，将其固定到机箱。



- d. 安装 NAS 背面的螺丝。



- e. 将 NAS 正常直立放置。
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。

QTS 安装

TS-351 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"> • 使用 Qfinder Pro 定位 NAS。 • 完成“智能安装指南”向导中的步骤。 <p>有关详细信息，请参见使用 Qfinder Pro 安装 QTS。</p>	<ul style="list-style-type: none"> • 计算机 • 网线 • Qfinder Pro 安装程序

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"> • 扫描 NAS 上的二维码。 • 登录您的 myQNAPcloud 帐户。 • 使用 CloudLink 远程访问 NAS。 • 完成“智能安装指南”向导中的步骤。 <p>有关详细信息，请参见使用 Cloud Key 安装 QTS。</p>	<ul style="list-style-type: none"> • 计算机或移动设备 • 网线 • myQNAPcloud 帐户 • CloudKey
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"> • 将 NAS 连接到所需的硬件。 • 完成“智能安装指南”向导中的步骤。 <p>有关详细信息，请参见使用 HDMI 连接安装 QTS。</p>	<ul style="list-style-type: none"> • 监视器 • HDMI 线缆 • USB 键盘或遥控器（仅部分型号提供）

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**。
此时将出现确认消息。

**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。
此时将出现确认消息。



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 中启用多媒体功能的详细信息，请参见《QTS 用户指南》的“系统设置”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。

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。	以下设置将重置为默认值： <ul style="list-style-type: none"> • 系统管理员密码：admin • TCP/IP 配置： <ul style="list-style-type: none"> • 通过 DHCP 自动获取 IP 地址设置 • 禁用巨型帧 • 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)”。 • 系统端口：8080（系统服务端口） • 安全等级：低（允许所有连接） • LCD 面板密码：（空白） • VLAN：禁用
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"> • 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。

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。

有关配置 USB 一键复制的详细信息，请参见《QTS 用户指南》。

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[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"> • 硬盘正在格式化。 • NAS 正在初始化。 • 操作系统正在更新。 • RAID 正在重建。 • 正在进行在线 RAID 容量扩展。 • 正在进行在线 RAID 级别迁移。
	红色	<ul style="list-style-type: none"> • 硬盘无效。 • 磁盘卷的容量已满。 • 磁盘卷的容量即将被占满。 • 系统风扇故障。 • 访问数据期间发生了读/写错误。 • 在硬盘上检测到坏扇区。 • 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）。 • 硬件自检错误
	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"> • NAS 未配置。 • 硬盘未格式化。
	绿色	<ul style="list-style-type: none"> • NAS 正在启动。 • NAS 已准备就绪。
	熄灭	所有硬盘都处于待机模式。
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。
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。

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

提示音警报

持续时间	频率	描述
短提示音（0.5 秒）	1	<ul style="list-style-type: none"> NAS 正在启动。 NAS 正在关闭（软件关闭）。 用户已按下“重置”按钮。 操作系统已更新。
	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"> 磁盘卷的容量即将被占满。 磁盘卷的容量已满。 硬盘处于降级模式。 用户已启动硬盘重建过程。 插入或抽出硬盘。
	1	<ul style="list-style-type: none"> NAS 已通过强制关闭关机（硬件关闭）。 NAS 已成功开机并准备就绪。

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

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 > 存储与快照总管 > 存储 > 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。

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
单个	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	http://docs.qnap.com
服务台	http://helpdesk.qnap.com
下载	http://download.qnap.com
社区论坛	http://forum.qnap.com

6. 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

使您能够定位和访问局域网中的 QNAP NAS 设备。

QTS

QNAP NAS 操作系统

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Version 3, 29 June 2007

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

17. Limitation of Liability.

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

18. Interpretation of Sections 16 and 17.

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

END OF TERMS AND CONDITIONS

FCC 声明

FCC B 类声明



本设备符合 FCC 规则第 15 部分的规定。其运行需满足下面两个条件：

1. 本设备不会产生有害干扰。
2. 本设备必须承受受到的干扰，包括可能导致运行异常的干扰。



注

经测试，本设备符合 FCC 规则第 15 部分中针对 B 类数字设备的限制标准。这些限制标准旨在提供合理的保护，以防止在住宅区安装设备时产生有害干扰。本设备会产生、使用并可发出射频能量，如果不按说明安装和使用，可能会对无线电通信产生有害干扰。但是，并不保证在特定安装中不会产生此类干扰。如果本设备确实对收音机或电视机接收造成有害干扰（可通过打开和关闭本设备来判定），建议用户尝试采取下列一项或多项措施来消除干扰：

- 改变接收天线的方向或位置。
- 增加本设备与接收设备之间的间距。
- 将本设备与接收设备分别接入不同回路的电源插座。
- 请咨询经销商或经验丰富的收音机/电视机技术人员以寻求帮助。



重要

若未经 QNAP Systems, Inc. 批准对本设备进行改动，可能会导致用户失去 FCC 授予的操作本设备的资格。

CE 声明



本 QNAP NAS 符合 CE 合规性 B 类标准。

SJ/T 11364-2006



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

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

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	0	0	0	0	0	0
显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
风扇组装	0	0	0	0	0	0
电力供应组装	0	0	0	0	0	0
电池	0	0	0	0	0	0
O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。						
X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。						