



QNAP

TS-x28A

TS-128A

TS-228A

用户指南

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1. 前言





关于本指南

本指南提供有关 QNAPTS-x28A 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，提供有关执行某项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-x28A NAS 的基本信息。

关于 TS-x28A

TS-x28A 是一款简单易用的轻量型 NAS，专为备份、同步、远程访问和家庭娱乐而设计。TS-x28A 可以为多位用户提供平稳、无缝的数据传输。此机型由 Realtek RTD 1295 四核 ARM Cortex A53 处理器提供支持，采用 1 GB DDR4 内存。此型 NAS 采用免工具立式设计，是家庭和小型公司的理想之选。

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。

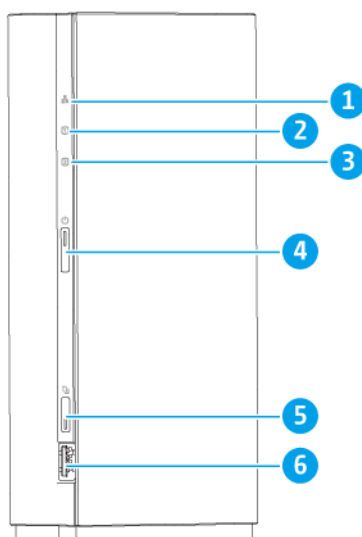
组件	TS-128A	TS-228A
处理器		
CPU	Realtek RTD 1295 四核 ARM Cortex A53 1.4 GHz 处理器	
架构	64 位	
内存		
最大内存	系统：1 GB DDR4 闪存：4 GB eMMC	
存储		
支持的 HDD	1 x 3.5 英寸 SATA 6 Gbps	2 x 3.5 英寸 SATA 6 Gbps
硬盘兼容性	3.5 英寸 SATA 机械硬盘	
网络		
千兆位以太网端口	1 x RJ45	
外部 I/O 端口和扩展插槽		
USB 端口	<ul style="list-style-type: none"> 正面：1 x USB 3.0 A 型 <div style="display: flex; align-items: center; margin: 5px 0;"> <div> <p>注</p> <p>您可以将一键复制按钮与此端口搭配使用。</p> </div> </div> <ul style="list-style-type: none"> 背面：2 x USB 2.0 A 型 	
尺寸		
外形规格	立式	
尺寸（高 x 宽 x 深）	187.7 x 60 x 125 mm 7.36 x 2.36 x 4.92 英寸	187.7 x 90 x 125 mm 7.36 x 3.54 x 4.92 英寸
净重	0.56 kg（1.23 磅）	0.7 kg（1.54 磅）
其他		
电源单元	36W, 100-240V AC, 50/60Hz	60W, 100-240V AC, 50/60Hz
系统风扇	40 x 40 mm	
工作温度	0 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） 	

**重要**

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>。

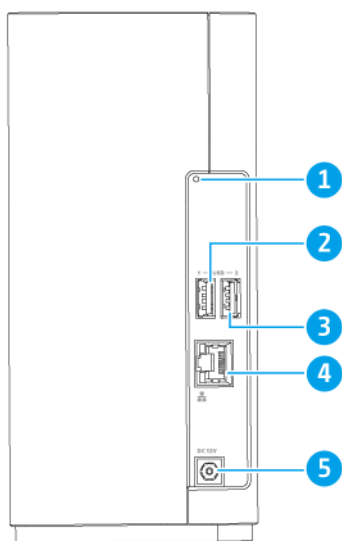
包装内容

项目	数量
TS-x28A	1
HDD 固定面板	TS-128A: 1 对 TS-228A: 2 对
交流电源适配器	1
电源线	1
以太网线	1
快速安装指南 (QIG)	1

组件**前面板****TS-228A**

编号	组件	编号	组件
1	LAN LED	4	电源按钮
2	硬盘 1 LED	5	USB 一键复制按钮
3	硬盘 2 LED	6	USB 3.0 一键复制端口

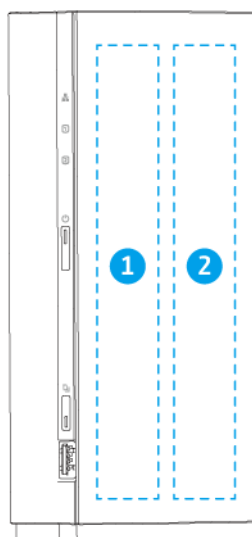
后面板



TS-228A

编号	组件	编号	组件
1	重置按钮	4	千兆位 RJ45 以太网端口
2	USB 2.0 端口 1	5	电源输入
3	USB 2.0 端口 2	-	-

正面硬盘编号



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"> • 室温：0 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、液体和化学药剂

类别	项目
硬件和外围设备	<ul style="list-style-type: none">• 存储硬盘• 网线
工具	防静电腕带

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。
2. 安装硬盘。
有关详细信息，请参见[安装 3.5 英寸硬盘](#)。
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。

硬盘安装

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。

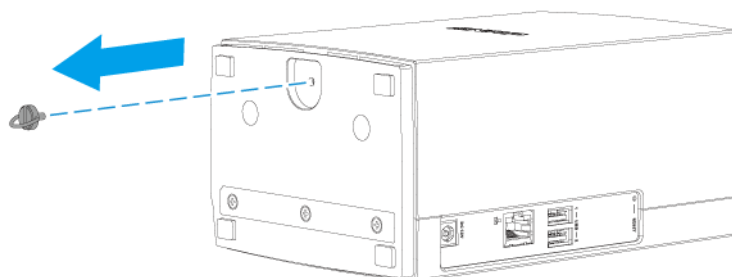


转动的风扇叶片：使您的双手和身体其他部位远离正在转动的风扇叶片。

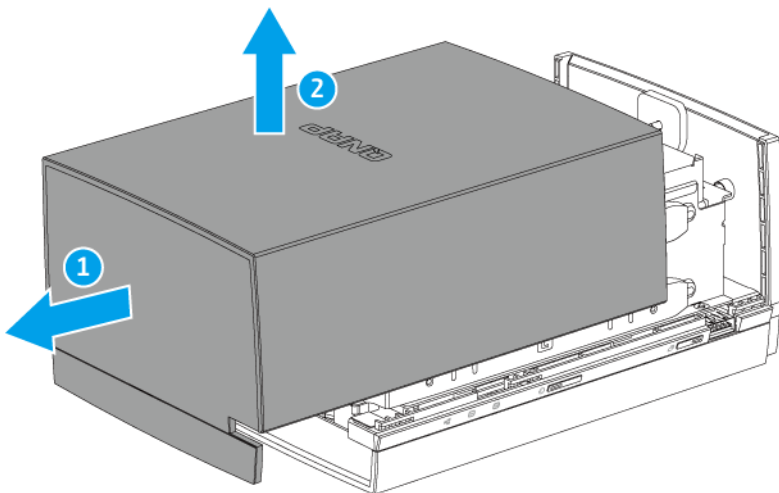


其他运动的组件：使您的双手和身体其他部位远离正在运动的其他组件。

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。
 - a. 将 NAS 左侧朝下放置。
 - b. 取下 NAS 底部的免工具螺丝。



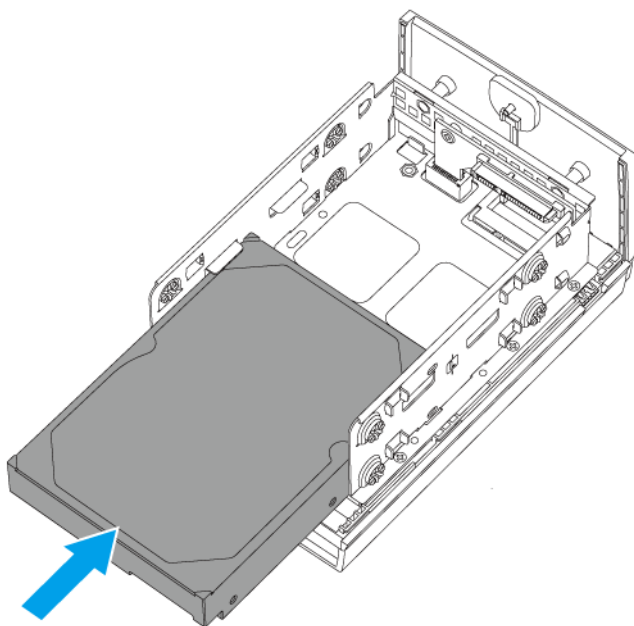
- c. 滑动盖板，使其离开底座，解除锁定。
- d. 向上拉起盖板，使其完全脱离机箱。



5. 将硬盘滑入托盘，直至与 SATA 连接器完全连接。

**重要**

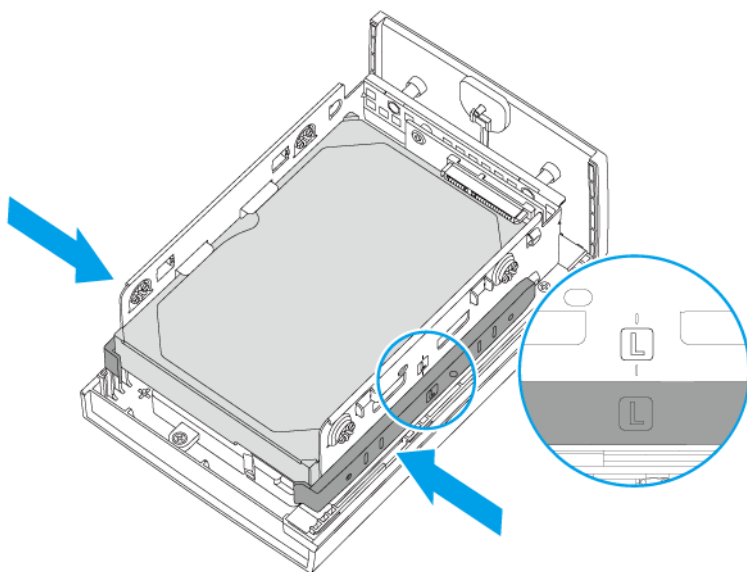
在 TS-228A 上安装硬盘时，务必从插槽 1 开始安装。
有关详细信息，请参见[正面硬盘编号](#)。



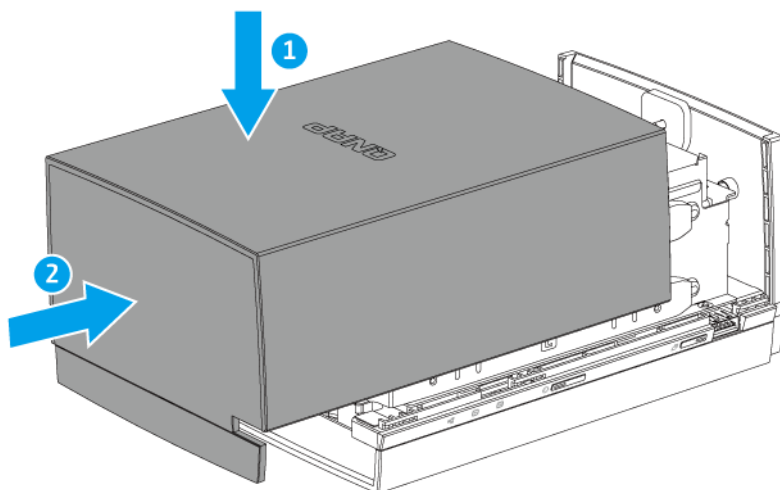
6. 装上固定面板。

**提示**

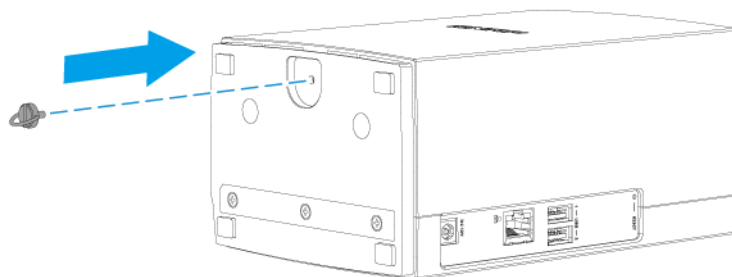
固定面板不能互换。请检查面板上的标识，将其安装到正确的一侧。

**7. 安装外壳盖。**

- a. 将盖板与外壳上的凹槽对齐。
- b. 将盖板滑向底座，将其锁定到位。



- c. 将免工具螺丝安装到 NAS 底部。



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

QTS 安装

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. 执行以下任一操作。
 - 要检查是否有可供使用的最新版本，单击**开始**。
向导会下载可供使用的最新版本，下载完成后，NAS 会重新启动。如果没有更新的版本，向导会自动显示**智能安装指南**。
 - 要安装立即可用的版本，单击**跳过**。
6. 单击**启动智能安装指南**。
7. 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。

8. 单击下一步。
9. 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。

10. 单击下一步。
11. 选择**自动获取 IP 地址(DHCP)**。
12. 单击下一步。
13. 选择将用于访问 NAS 上共享文件夹的设备类型。
14. 单击下一步。
15. 选择**稍后配置磁盘**。

**注**

有关配置磁盘的详细信息，请参见《QTS 用户指南》的“存储空间总管”一节。

16. 配置磁盘设置。
 - a. 选择卷类型。
 - b. 选择要用于创建 RAID 组的磁盘。
 - c. 可选: 选择 RAID 类型。

**注**

智能安装指南会根据所选磁盘的数量自动选择最佳的 RAID 类型。

- d. 可选: 选择**加密磁盘卷和坏块扫描**。
17. 单击下一步。
 18. 选择否。

**注**

- 启用多媒体功能后，可以在“存储空间总管”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。

19. 单击下一步。
20. 检查设置。
21. 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。

22. 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 云端安装程序”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。

7. 可选: 选择 **CloudLink**。

**注**

- 使用 CloudLink，可以远程访问 NAS，而无需在路由器上配置端口转发。您可以通过登录 QTS 或使用移动应用来远程访问 NAS。
- 还可以通过在 NAS 上安装 CloudLink 应用来启用 CloudLink。

8. 单击**下一步**。
智能安装指南将在默认 Web 浏览器中打开。

9. 执行以下任一操作。

- 要检查是否有可供使用的最新版本，单击**开始**。
向导会下载可供使用的最新版本，下载完成后，NAS 会重新启动。如果没有更新的版本，向导会自动显示**智能安装指南**。

- 要安装立即可用的版本，单击**跳过**。

10. 单击**启动智能安装指南**。

11. 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。

12. 单击**下一步**。

13. 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。

14. 单击**下一步**。

15. 选择**自动获取 IP 地址(DHCP)**。

16. 单击**下一步**。

17. 选择将用于访问 NAS 上共享文件夹的设备类型。

18. 单击**下一步**。

19. 选择**稍后配置磁盘**。



注

有关配置磁盘的详细信息，请参见《QTS 用户指南》的“存储空间总管”一节。

20. 配置磁盘设置。

- a. 选择卷类型。
- b. 选择要用于创建 RAID 组的磁盘。
- c. 可选：选择 RAID 类型。



注

智能安装指南会根据所选磁盘的数量自动选择最佳的 RAID 类型。

- d. 可选：选择**加密磁盘卷**和**坏块扫描**。

21. 单击**下一步**。

22. 选择**否**。



注

- 启用多媒体功能后，可以在“存储空间总管”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。

23. 单击**下一步**。

24. 检查设置。

25. 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。

26. 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。
		 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，可以将数据备份从外部 USB 设备复制到 NAS，或将数据备份从 NAS 复制到外部 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（读/写）数据时出错。 • 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 正在启动。 • NAS 未配置。 • 硬盘未格式化。
	闪烁绿色，间隔 2 秒	NAS 处于 S3 睡眠模式。
	绿色	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。

支持和其他资源

QNAP 提供了以下资源：

资源	URL
文档	http://docs.qnap.com
技术支持	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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END OF TERMS AND CONDITIONS

FCC 声明

FCC B 类声明



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1. 本设备不会产生有害干扰。
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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

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CE 声明



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SJ/T 11364-2006



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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
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