Synology RS819

Synology RS819 4-Bay Rackstation NAS User Manual

Model: RS819

1. INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, maintenance, and troubleshooting of your Synology RS819 4-Bay Rackstation Network Attached Storage (NAS) device. The Synology RS819 is a compact and scalable 1U rack-mount NAS designed for efficient data management, sharing, synchronization, and backup solutions for business workgroups.

2. PRODUCT OVERVIEW

2.1 Key Features

- Scalable 4-bay 1U rack mount NAS, expandable up to 8 drives with Synology RX418 expansion unit.

- Equipped with a 64-bit quad-core 1.4GHz processor, offering encryption performance over 224 MB/s reading and 152 MB/s writing.

- Compact chassis design, with a depth of less than 12 inches.

- Features dual 1GbE LAN ports with support for failover and Link Aggregation.

- Utilizes the advanced Btrfs file system, providing 4,096 system-wide snapshots and 256 snapshots per shared folder.

2.2 Package Contents

The Synology RS819 package typically includes:

- Synology RS819 SAN/NAS Storage System (Diskless)

- AC Power Cord

- Accessory Pack (screws for hard drives, etc.)

- Quick Installation Guide

2.3 Physical Components

Figure 1: Front view of the Synology RS819 Rackstation NAS, showing the four drive bays and LED indicators.

Figure 2: Rear view of the Synology RS819 Rackstation NAS, displaying the power input, dual LAN ports, USB 3.0 ports, eSATA port, and COM port.

Front Panel Indicators and Buttons:

- **Power Button:** Turns the device on or off.
- **Status LED:** Indicates system status (e.g., normal, degraded, volume crash).
- **Drive Status LEDs:** Indicates the status of each installed hard drive.
- **LAN LEDs:** Indicates network activity for each LAN port.

Rear Panel Ports:

- **Power Port:** Connects to the AC power supply.
- **LAN Ports (x2):** Gigabit Ethernet ports for network connection.
- **USB 3.0 Ports (x2):** For connecting external USB devices.
- **eSATA Port:** For connecting an eSATA expansion unit (e.g., Synology RX418).
- **COM Port:** Serial port for specific management tasks.
- **Reset Button:** Resets the device to factory default settings (refer to troubleshooting for proper use).

3. SETUP

3.1 Unpacking and Inspection

1. Carefully remove the Synology RS819 from its packaging.
2. Verify that all package contents listed in Section 2.2 are present.
3. Inspect the device for any physical damage. If damage is found, contact your vendor immediately.

3.2 Hard Drive Installation

The Synology RS819 supports 3.5-inch or 2.5-inch SATA hard drives or solid-state drives (SSDs). Ensure drives are compatible and of sufficient capacity for your needs.

1. Locate the drive trays on the front panel of the RS819.
2. Press the release button on a drive tray and pull it out.
3. Place your hard drive into the tray. For 3.5-inch drives, secure it with the provided screws. For 2.5-inch drives, use the adapter bracket (if necessary) and secure it with screws.
4. Slide the drive tray back into the drive bay until it clicks into place.
5. Repeat for all desired hard drives.

Figure 3: Angled view of the Synology RS819, illustrating the accessible drive bays for hard drive installation.

3.3 Rack Mounting (Optional)

The RS819 is designed for 1U rack installation. Ensure your rack is compatible and has sufficient depth.

1. Attach the rackmount rails (sold separately) to your server rack according to the rail kit's instructions.
2. Slide the RS819 onto the installed rails until it is fully seated and secured.
3. Secure the front of the RS819 to the rack using the provided screws.

3.4 Initial Connection and Power On

1. Connect one end of an Ethernet cable to a LAN port on the RS819 and the other end to your network switch or router.
2. Connect the AC power cord to the power port on the rear of the RS819 and then to a power outlet.
3. Press the power button on the front panel. The Status LED should begin to flash.

3.5 DiskStation Manager (DSM) Installation

DiskStation Manager (DSM) is the web-based operating system for your Synology NAS. It needs to be installed on the hard drives.

1. From a computer connected to the same network, open a web browser and go to http://find.synology.com.
2. Synology Web Assistant will locate your RS819. Click **Connect**.
3. Follow the on-screen instructions to install DSM. This process will format the installed hard drives.
4. Once DSM is installed, you will be prompted to create an administrator account and set up basic network settings.

4. OPERATING INSTRUCTIONS

4.1 Basic Operations

Power On/Off:

- **To Power On:** Press the power button on the front panel.
- **To Power Off:** Log in to DSM, go to **Control Panel > Hardware & Power > General**, and click **Shut Down**. Alternatively, press and hold the power button until you hear a beep (approximately 3 seconds).

LED Indicators:

Monitor the front panel LEDs for system status:

- **Status LED:** Green (normal), Orange (degraded/error), Flashing (booting/shutting down).
- **Drive LEDs:** Green (active), Flashing Green (accessing), Orange (drive error/degraded).

- **LAN LEDs:** Green (connected), Flashing Green (activity).

4.2 Data Management

Creating Storage Pools and Volumes:

1. Log in to DSM.

2. Open **Storage Manager**.

3. Go to **Storage Pool** and click **Create** to set up a new storage pool with your desired RAID type (e.g., RAID 5, RAID 6, SHR).

4. After creating a storage pool, go to **Volume** and click **Create** to create a new volume on the storage pool.

Creating Shared Folders:

1. In DSM, open **Control Panel > Shared Folder**.

2. Click **Create > Create Shared Folder**.

3. Follow the wizard to name the folder, select the volume, and configure permissions for users and groups.

4.3 Backup and Restoration

DSM offers various backup solutions:

- **Hyper Backup:** For backing up data from your NAS to another Synology NAS, rsync server, public cloud services, or external storage.

- **Snapshot Replication:** Leverages the Btrfs file system to create point-in-time copies of shared folders and iSCSI LUNs for quick recovery.

- **Active Backup for Business:** Centralized backup solution for PCs, servers, and virtual machines.

Refer to the DSM Help for detailed instructions on configuring these backup tasks.

4.4 Network Configuration

Configure network settings via **Control Panel > Network**.

- **Network Interface:** Configure IP addresses (DHCP or static), DNS servers, and Jumbo Frame settings.

- **Traffic Control:** Manage network bandwidth for different services.

- **Link Aggregation:** Combine the two LAN ports for increased bandwidth or network redundancy (requires a compatible switch).

5. MAINTENANCE

5.1 System Updates

Regularly update DSM to ensure system stability, security, and access to new features.

1. Log in to DSM.

2. Go to **Control Panel > Update & Restore**.

3. Check for available DSM updates and install them as recommended.

5.2 Disk Health Check

Monitor the health of your hard drives to prevent data loss.

1. In DSM, open **Storage Manager**.

2. Go to **HDD/SSD**.

3. Select a drive and click **Health Info** to view S.M.A.R.T. data and run health tests.

5.3 Cleaning

Keep the RS819 clean to ensure proper airflow and prevent overheating.

- Power off the device and disconnect the power cord before cleaning.

- Use a soft, dry cloth to wipe the exterior.

- Use compressed air to gently clear dust from ventilation openings.

6. TROUBLESHOOTING

6.1 Common Issues and Solutions

- **Device not powering on:** Ensure the power cord is securely connected to both the device and a working power outlet. Test the outlet with another device.

- **Cannot find the NAS on the network:** Verify Ethernet cable connections. Ensure your computer is on the same network segment. Try using http://find.synology.com or Synology Assistant software.

- **Status LED is orange:** This indicates a system warning or degraded volume. Log in to DSM and check **Storage Manager** or **Log Center** for details.

- **Drive LED is orange:** A drive may be failing or has failed. Check **Storage Manager > HDD/SSD** for the drive's health status. Replace faulty drives as soon as possible.

- **Forgot administrator password:** Use the reset button on the rear panel. Press and hold the reset button for 4 seconds until you hear a beep. This will reset the admin password and network settings without affecting data.

For more detailed troubleshooting, refer to the Synology Knowledge Base or contact Synology Support.

7. TECHNICAL SPECIFICATIONS

Feature	Specification
Brand	Synology
Model	RS819
Drive Bays	4
CPU	64-bit Quad-core 1.4GHz
Memory	2GB DDR4
Network Interfaces	2 x 1GbE RJ-45
USB Ports	2 x USB 3.0
eSATA Ports	1
Compatible Drive Types	3.5" SATA HDD, 2.5" SATA HDD, 2.5" SATA SSD

Feature	Specification
Dimensions (HxWxD)	1.7 x 18.8 x 12.9 inches (44 x 480 x 327.5 mm)
Weight	9.57 lbs (4.34 kg)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Relative Humidity	5% to 95% RH
Power Supply	100V to 240V AC

8. WARRANTY AND SUPPORT

8.1 Product Warranty

The Synology RS819 comes with a limited warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Synology website.

8.2 Technical Support

For technical assistance, product documentation, and software downloads, please visit the Synology Support Center:

- **Synology Website:** www.synology.com
- **Support Portal:** www.synology.com/support
- **Knowledge Base:** Provides articles and FAQs for common issues and configurations.

When contacting support, please have your product model (RS819) and serial number ready.