

Synology DS1821+

Synology DS1821+ 8-Bay DiskStation NAS User Manual

Model: DS1821+

1. INTRODUCTION

The Synology DS1821+ is an 8-bay Network Attached Storage (NAS) device designed for IT enthusiasts and small to medium-sized businesses (SMBs) requiring a powerful and scalable storage solution. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your DS1821+ to ensure optimal performance and data integrity.



Figure 1: Front view of the Synology DS1821+ DiskStation, showing the eight accessible drive bays, status indicators, and power button.

Key Features:

- **8-Bay Design:** Accommodates up to 8 hard drives or SSDs, providing extensive storage capacity.
- **AMD Ryzen CPU:** Powered by an AMD Ryzen quad-core processor for high performance in file sharing, virtualization, and multimedia streaming.
- **Dual M.2 NVMe Slots:** Allows for the addition of SSD cache to significantly improve system performance.
- **Expandable Storage:** Can be expanded up to 18 bays by connecting two DX517 expansion units.

- **Sophisticated Software:** Features DiskStation Manager (DSM) with a wide range of applications for file sharing, backup, virtualization, and multimedia streaming.

2. SETUP GUIDE

2.1 Package Contents

Before proceeding, ensure all components are present:

- Synology DS1821+ main unit
- AC Power Cord
- RJ-45 LAN Cable(s)
- Quick Installation Guide
- Accessory Pack (screws for 2.5" drives)

2.2 Drive Installation

1. **Prepare Drives:** Ensure your 3.5-inch or 2.5-inch SATA hard drives or SSDs are compatible. For 3.5-inch drives, no screws are typically needed for the drive trays. For 2.5-inch drives, use the provided screws.
2. **Insert Drives:** Slide each drive into an empty drive bay until it clicks into place. Ensure the drive is securely seated.
3. **Secure Trays:** Lock the drive trays if your model includes locking mechanisms.



Figure 2: Angled front view of the Synology DS1821+, highlighting the design and accessibility of the drive bays for installation.

2.3 Connecting Cables

1. **Network Connection:** Connect one end of the RJ-45 LAN cable to a LAN port on the DS1821+ and the other end to your router, switch, or hub. The DS1821+ features multiple LAN ports for network redundancy or link aggregation.
2. **Power Connection:** Connect the AC power cord to the power port on the rear of the DS1821+ and then to a power outlet.



Figure 3: Rear view of the Synology DS1821+, showing the dual cooling fans, power input, multiple LAN ports, and USB ports for external connections.

2.4 Initial Power-On and DSM Installation

1. **Power On:** Press the power button on the front panel. The STATUS LED should blink green.
2. **Find Your NAS:** Open a web browser on a computer connected to the same network and go to <http://find.synology.com> or use the Synology Assistant utility.
3. **Install DSM:** Follow the on-screen instructions to install DiskStation Manager (DSM), Synology's operating system. This process will format the installed drives.
4. **Create Administrator Account:** Set up your administrator account and password.

3. OPERATING YOUR SYNOLOGY DS1821+

3.1 Accessing DiskStation Manager (DSM)

After installation, access DSM by entering the NAS's IP address or hostname (e.g., `http://diskstation:5000`) in your web browser. Log in with your administrator credentials.

3.2 Storage Management

- **Storage Pool Creation:** Navigate to **Storage Manager** to create storage pools and volumes. Synology Hybrid RAID (SHR) is recommended for most users for optimal flexibility and data protection.
- **RAID Configuration:** Configure RAID levels (e.g., RAID 1, RAID 5, RAID 6, RAID 10) based on your performance and redundancy requirements.
- **SSD Cache:** Utilize the M.2 NVMe slots to create an SSD cache for frequently accessed data, enhancing read/write performance.

3.3 File Sharing and Access

- **Shared Folders:** Create shared folders in **Control Panel > Shared Folder** to store and organize your data.
- **User and Group Management:** Manage user accounts and groups, assigning specific permissions to shared folders.
- **File Station:** Use the File Station application in DSM for web-based file management.

- **Network Protocols:** The DS1821+ supports various file sharing protocols, including SMB/CIFS, AFP, NFS, FTP, and WebDAV.

3.4 Data Protection and Backup

The DS1821+ offers robust backup solutions:

- **Hyper Backup:** Back up data from your NAS to another Synology NAS, rsync server, public cloud services, or local external storage.
- **Snapshot Replication:** Create point-in-time copies of shared folders and iSCSI LUNs for quick data recovery.
- **Active Backup for Business:** Centralize backup tasks for Windows PCs, servers, VMware, and Microsoft 365/Google Workspace.

4. MAINTENANCE

4.1 Software Updates

Regularly update DSM to ensure system stability, security, and access to new features. Go to **Control Panel > Update & Restore** to check for and install updates.

4.2 Drive Health Monitoring

Monitor the health of your installed drives via **Storage Manager > HDD/SSD**. Pay attention to S.M.A.R.T. attributes and run extended tests periodically to detect potential drive failures early.

4.3 System Logs

Review system logs in **Log Center** for any warnings or errors that may indicate underlying issues. This can help in proactive troubleshooting.

4.4 Power Management

Configure power schedules (**Control Panel > Hardware & Power > Power Schedule**) to automatically power on/off your NAS, conserving energy and extending hardware lifespan.

5. TROUBLESHOOTING

5.1 LED Indicators

Understanding the LED indicators can help diagnose issues:

- **STATUS LED:**
 - *Green (Solid)*: Normal operation.
 - *Green (Blinking)*: DSM is starting up, shutting down, or performing a RAID operation.
 - *Orange (Solid)*: System error, volume crash, or degraded RAID.
 - *Orange (Blinking)*: DSM not installed, or no drives detected.
- **DRIVE LEDs:**
 - *Green (Solid)*: Drive is ready.
 - *Green (Blinking)*: Drive is accessing data.

- *Orange (Solid)*: Drive error or degraded.

- **LAN LEDs:**

- *Green (Solid)*: Network connection established.
- *Green (Blinking)*: Network activity.

5.2 Common Issues

- **Cannot Connect to NAS:**

Ensure network cables are securely connected. Verify your computer is on the same network. Try restarting your router and the NAS. Use Synology Assistant to locate the device.

- **Degraded Volume/Drive Failure:**

If a drive LED is orange or the STATUS LED is orange, check **Storage Manager** for details. Replace faulty drives immediately and repair the storage pool.

- **Slow Performance:**

Check network bandwidth, CPU/RAM usage in **Resource Monitor**. Consider adding SSD cache or upgrading RAM if consistently high. Ensure drives are healthy.

6. SPECIFICATIONS

Feature	Detail
Model Name	DS1821+
CPU	AMD Ryzen V1500B Quad-Core 2.2 GHz
Memory	4 GB DDR4 ECC SODIMM (expandable)
Drive Bays	8
Compatible Drive Types	3.5" SATA HDD, 2.5" SATA HDD, 2.5" SATA SSD
M.2 Drive Slots	2 (NVMe)
External Ports	4 x USB 3.2 Gen 1, 2 x eSATA
LAN Ports	4 x 1GbE RJ-45
PCIe Expansion	1 x Gen3 x8 slot (x4 link) for network interface card or M.2 SSD adapter card
Dimensions (HxWxD)	166 mm x 343 mm x 243 mm (6.54" x 13.5" x 9.57")
Weight	6 kg (13.23 lbs) (<i>Note: Product listing states 29.1 lbs, which likely includes drives.</i>)
Power Supply Unit	250W
Operating Temperature	0°C to 40°C (32°F to 104°F)

7. WARRANTY AND SUPPORT

Synology products come with a limited warranty. For detailed warranty information, please refer to the official Synology website or the warranty card included with your product. For technical support, software updates, and additional resources, visit the Synology Support Center online:

**Synology Support
Center**

Always ensure your DiskStation Manager (DSM) is up to date to benefit from the latest security patches and features.

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Related Documents - DS1821+

	<p><u>Synology DS923+ Product Manual: Setup, Features, and Troubleshooting</u></p> <p>Comprehensive product manual for the Synology DS923+ NAS. Learn about package contents, hardware setup, DSM installation, system maintenance, and troubleshooting. Includes detailed specifications and safety instructions.</p>
	<p><u>Synology NAS User's Guide: Master DSM 6.2 Features</u></p> <p>Comprehensive user guide for Synology NAS devices running DiskStation Manager (DSM) 6.2. Learn to set up, manage, share files, back up data, and utilize advanced features for optimal performance and security.</p>
	<p><u>Synology NAS User's Guide for DSM 6.0</u></p> <p>Comprehensive guide to Synology NAS devices running DiskStation Manager (DSM) 6.0, covering setup, system settings, storage management, file sharing, internet access, security, backup, and mobile device integration.</p>
	<p><u>Synology DS925+ Product Manual: Setup, Installation, and Troubleshooting</u></p> <p>Comprehensive product manual for the Synology DS925+ Network Attached Storage (NAS) device. Covers hardware installation, DSM setup, system maintenance, and troubleshooting for your Synology storage solution.</p>

 Synology Synology NAS DS2419+II Hardware Installation Guide	<p>Synology DS2419+II Hardware Installation Guide</p> <p>A comprehensive guide for the Synology DS2419+II Network Attached Storage (NAS) device, detailing hardware installation, component upgrades like RAM and network cards, drive setup, and initial DiskStation Manager (DSM) installation.</p>
 Synology Synology DiskStation MIB Guide <small>THE DOCUMENT CONTAINS TRADE SECRET INFORMATION OF SYNLOGY INC. IT IS PROTECTED BY LAW. UNAUTHORIZED DISCLOSURE, COPIES OR USE IS PROHIBITED. © 2010 SYNLOGY INC. ALL RIGHTS RESERVED. APPLICABLE TRADE SECRET PROTECTIONS OF SYNLOGY INC. ARE APPLICABLE.</small>	<p>Synology DiskStation MIB Guide</p> <p>A guide detailing Synology DiskStation Management Information Base (MIB) files, their structure, supported OIDs, and how to use them with Network Management Systems (NMS) for monitoring Synology NAS devices.</p>