Synology®

DiskStation
DS1821+

High capacity storage and data protection for anyone

Synology DiskStation DS1821+ is a powerful 8-bay network-attached-storage solution designed to store and protect mission-critical data. Designed to tackle increasing amounts of unstructured data, the low-noise, desktop form-factor of the DS1821+ is built for both SOHO and SMB environments. With performance over 110K or 177% higher, 4K random read IOPS than its predecessor, the DS1821+ is fast, with ample room for scalability.

Highlights

- **Accelerated Performance**
  177% higher 4K random read IOPS and 76% faster sequential write speeds compared to its predecessor[1]
- **Maximize Performance**
  Turbocharge HDD arrays by 20x or more[2] without occupying drive bays using dual built-in M.2 slots for NVMe SSD cache[3]
- **Expansion Made Easy**
  Scale-up on-demand to 18 drives with two DX517 expansion units[4]
- **Includes Everything to Protect Your Data**
  Back up critical data to and from public clouds, Windows PCs and servers, virtual machines, and data on the NAS with Synology Active Backup suite, Hyper Backup, and Snapshot Replication
- **Ready for 10GbE**
  Add in a 10GbE SFP+ or RJ-45 NIC to instantly increase network bandwidth based on your existing infrastructure[5]

Versatile Storage Powerhouse in a Single Solution

Synology DS1821+ is designed for multi-purpose use, suitable for a wide range of usage environments. The compact 14L desktop form-factor makes it easy to store away whether it is at home or in a quiet office environment.

- Up to **110,000** 4K random read IOPS and **2300 MB/s** sequential write speeds[1] for demanding workloads
- Dual **M.2 2280 slots for NVMe SSD** lets you maximize performance and capacity efficiently[3]
- Features 8 bays, supporting both SATA HDD/SSD 2.5" and 3.5" drives and can be expanded by using two Synology DX517 expansion units for a total capacity of 18 bays
- Powered by **Synology DSM**, our unified data management operating system

Robust Data Protection with Btrfs

DS1821+ uses the **Btrfs** file system optimized by Synology to offer both high reliability and high performance. Btrfs supports advanced storage technologies that meet the needs of modern business:

- **Advanced snapshot technology** provides schedulable and near-instantaneous data protection of shared folders and LUNs
- **File and folder level data restoration** offers users who wish to restore only a specific file or folder more flexibility
- **Flexible Shared Folders and user quota system** provides comprehensive quota control on all user accounts and shared folders
- **File self-healing** allows Btrfs file systems to auto-detect corrupted files using mirrored metadata and to recover broken data using RAID configurations
- **Inline compression** compresses data before writing it to the drive, to optimize storage use and reduce write commands to the drives

Next-Generation File System

Btrfs is a modern file system designed to safeguard data integrity through metadata mirroring, file self-healing, and fast snapshot replication.

Synology Collaboration Suite

A powerful and secure private cloud solution that lets teams collaborate, sync files, and communicate with others anytime, anywhere.

On-Premises Collaboration

Synology Collaboration Suite allows businesses to host their own fundamental IT services for file sharing, concurrent document editing, emails, instant messaging, and more. Create a multi-user collaborative environment while leveraging private cloud infrastructure to reduce privacy concerns. Multi-layered security enables secure access to files and services, even for a distributed or remote workforce across Windows®, macOS®, Linux®, Android™, and iOS platforms.

- **Synology Drive** enables data access, synchronization, and backup via web portal and desktop applications across Windows®, macOS®, and Linux® platforms. Intelliversioning saves historical versions while minimizing storage space usage and supports on-demand data restoration.

- **Synology Office** includes Documents, Spreadsheets, and Slides. The online collaborative editing environment allows multiple users to edit, comment, and share data together.

- **Synology MailPlus**[6] enables you to setup a secure, reliable, and private email server, with an intuitive web-based client to boost productivity

- **Synology Chat** enables instant conversations and optimizes team communications with powerful features including message encryption, pinning, forwarding, reminders, and scheduling.

- **Synology Calendar** helps teams keep track of what's important, with easy to use sharing and scheduling functionality, keeping everyone on the same page.

Virtualization Flexibility

Whether providing VM storage through iSCSI, NFS, or running them directly on the DS1821+ using Virtual Machine Manager, Synology DSM provides comprehensive tools to protect your virtual machines.

Running & Protecting Virtual Machines

Synology Virtual Machine Manager (VMM) is a hosted hypervisor that lets users easily set up virtual machines running Windows® or Linux® based platforms and a virtualized version of Synology DSM, Virtual DSM, on the DS1821+. Using VMM, users can build up a cluster environment with multiple Synology systems for flexibility to perform online migration based on load balancing and resource allocation requirements. High performance snapshots, replication, cloning, and recovery mechanisms enable comprehensive management and data protection on each VM[7].

DSM also simplifies the provisioning and management of storage for virtual machines. Certified for VMware® vSphere™, Microsoft® Hyper-V®, Citrix® XenServer™, and OpenStack, Synology systems can integrate with your virtualization platform of choice through iSCSI or NFS protocols. Install Synology Storage Console for VMware/Windows for additional management convenience and functionality right in the hypervisor.
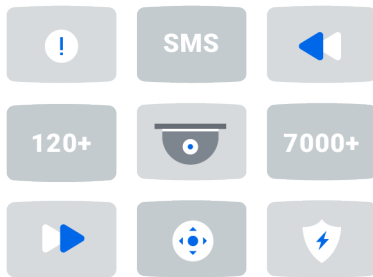
Synology Backup Solutions

DSM backup solutions are designed to be low-maintenance, with different RPO/RTO targets, storage efficiency, and backup destinations available depending on your requirements.

Always On Guard

Protect your home or office with Synology's reliable and intuitive VMS solution. Surveillance Station combines intelligent monitoring and robust management features for flexible deployment scenarios.

Comprehensive Data Protection Options

DS1821+ includes a range of backup solutions to protect local, remote, and cloud-based deployment environments, all-inclusive with the device. Easily set up automated backups and even enable self-serve functionality for reduced maintenance and upkeep.

• **Back up data on Synology NAS:** Snapshot Replication enables lightning-fast snapshots for point-in-time file versioning, great for rolling back unintended file modifications and protecting your data against ransomware attacks. Hyper Backup offers a wide range of destinations for backups of your NAS, including for both local and remote on-premises and cloud storage providers.

• **Back up business infrastructure:** Synology Active Backup suite is a collection of powerful backup solutions built to protect Windows PCs and servers, VMware and Hyper-V VMs, other file servers, and even Google G Suite and Microsoft 365 SaaS clouds.

Private Video Surveillance

With Synology Surveillance Station, DS1821+ becomes a powerful VMS solution. With support for up to 40 IP cameras, you can easily cover large installations[8].

• **7,600 supported cameras, and counting:** Find a compatible camera from our constantly updated compatibility lists to match your video requirements and budget. ONVIF support prevents vendor lock-in.

• **Private and subscription-free:** Unlike cloud-based cameras, you can keep your recordings private and on-premises. Simple per-camera licensing with no subscriptions needed to access your data.

• **Flexible monitoring & control:** Access your surveillance system from a web browser, dedicated desktop clients, or from the DS cam mobile app. Internet-optional.

• **Automation & notification:** Set up rules to trigger specific actions when an event occur, such as automatically taking a picture when motion detection is triggered. Get notified by email, SMS, or push notification so that you can act quickly.

Hardware Overview

Front
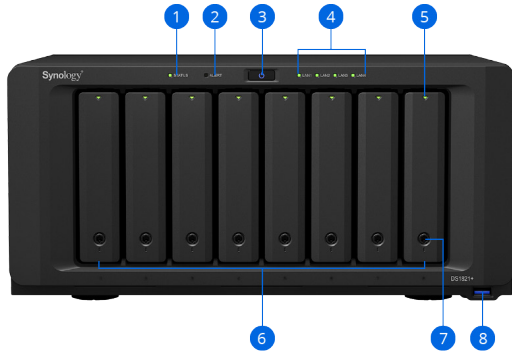
Rear
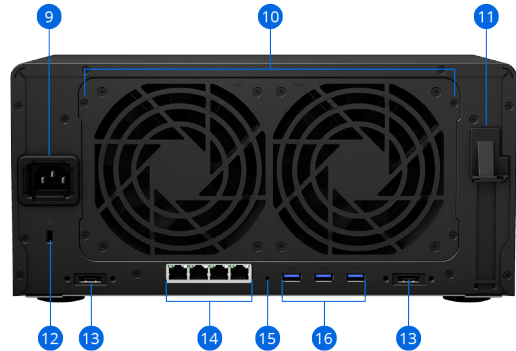
1	Status indicator	**2**	Alert indicator	**3**	Power button and indicator	**4**	LAN indicator
5	Drive status indicator	**6**	Drive tray	**7**	Drive tray lock	**8**	USB 3.2 Gen 1 port
9	Power port	**10**	System fan	**11**	PCIe expansion slot	**12**	Kensington Security Slot
13	Expansion port	**14**	1GbE RJ-45 port	**15**	Reset button	**16**	USB 3.2 Gen 1 port

Technical Specifications

Hardware

CPU	AMD Ryzen™ V1500B quad-core 2.2 GHz
Hardware encryption engine	Yes (AES-NI)
Memory	4 GB DDR4 ECC SODIMM (expandable up to 32 GB)
Compatible drive type[9]	• 8 x 3.5" or 2.5" SATA HDD/SSD (drives not included) • 2 x M.2 2280 NVMe SSD (drives not included)
Hot swappable drive	Yes
External port	• 4 x USB 3.2 Gen 1 • 2 x eSATA
Size (HxWxD)	166 x 343 x 243 mm
Weight	6.0 kg
LAN port	4 x 1GbE RJ-45
Wake on LAN/WAN	Yes
PCIe 3.0 slot	• 1 x 4-lane x8 slot • Supports 10GbE network interface cards
Scheduled power on/off	Yes
System fan	2 (120 x 120 x 25 mm)
AC input power voltage	100 V to 240 V AC
Power frequency	50/60 Hz, single phase
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-20°C to 60°C (-5°F to 140°F)
Relative humidity	5% to 95% RH
Maximum operating altitude	5,000 m (16,400 ft)

General DSM specification

Networking protocol	SMB, AFP, NFS, FTP, WebDAV, CalDAV, iSCSI, Telnet, SSH, SNMP, VPN (PPTP, OpenVPN™, L2TP)
File system	• Internal: Btrfs, ext4 • External: Btrfs, ext4, ext3, FAT32, NTFS, HFS+, exFAT[10]
Supported RAID type	Synology Hybrid RAID (SHR), Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10
Storage management	• Maximum single volume size: 108TB • Maximum system snapshots: 65,536[11] • Maximum internal volume: 64
SSD cache	• Read/write cache support • M.2 NVMe SSD support
File sharing capability	• Maximum local user account: 2,048 • Maximum local group: 256 • Maximum shared folder: 512 • Maximum concurrent SMB/NFS/AFP/FTP connection: 1,000
Privilege	Windows® Access Control List (ACL), application privileges
Directory service	Windows® AD integration: Domain users login via SMB/NFS/AFP/FTP/File Station, LDAP integration
Virtualization	VMware vSphere® 6.5, Microsoft Hyper-V®, Citrix®, OpenStack®
Security	Firewall, shared folder encryption, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, HTTPS (customizable cipher suite)
Supported client	Windows® 7 onwards, macOS® 10.12 onwards
Supported browser	Chrome®, Firefox®, Edge®, Internet Explorer® 10 onwards, Safari® 10 onwards, Safari (iOS 10 onwards), Chrome (Android™ 6.0 onwards) on tablets
Interface language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svensk, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ภาษาไทย, 日本語, 한국어, 繁體中文, 简体中文

Packages and Applications

File Server & Synchronization	
Drive	Provide a universal portal to synchronize your files across various platforms, including Windows®, macOS®, Linux®, Android™ and iOS. The built-in universal portal allows you to access data anytime and anywhere. • Maximum number of hosted files: 1,000,000 • Maximum number of concurrent connections for PC clients: 550
File Station	Virtual drives, remote folders, Windows® ACL editor, compressing/extracting archived files, bandwidth control for specific users/groups, creating sharing links, transfer logs
FTP Server	Bandwidth control for TCP connections, custom FTP passive port range, anonymous FTP, FTP SSL/TLS and SFTP protocol, boot over the network with TFTP and PXE support, transfer logs
Presto File Server[12]	High-speed data transfer over WAN with exclusive SITA technology between Synology NAS and desktop
Cloud Sync	One or two-way synchronization with public cloud storage providers including Alibaba Cloud OSS, Amazon S3-compatible storage, Backblaze B2, Baidu Cloud, Box, Dropbox, Google Cloud Storage, Google Drive, hubiC, MegaDisk, Microsoft OneDrive, OpenStack Swift-compatible storage, Tencent COS, WebDAV servers, Yandex Disk
Universal Search	Offer global search into applications and files

iSCSI Storage & Virtualization	
iSCSI Manager	• Maximum iSCSI target: 128 • Maximum iSCSI LUN: 256 • iSCSI LUN clone/snapshot support
Virtual Machine Manager	Deploy and run various virtual machines on Synology NAS, including Windows®, Linux®, or Virtual DSM

Data Protection & Backup Solution	
Hyper Backup	Support local backup, network backup, and data backup to public clouds
Backup tools	DSM configuration backup, macOS® Time Machine® support, Synology Drive Client desktop application Shared folder sync - maximum task number: 16
Snapshot Replication	• Maximum of shared folder snapshots: 1,024 • Maximum of replication: 32
Synology High Availability	Reduce service downtime by setting up two identical NAS into one high-availability cluster
Active Backup for G Suite	Support G Suite My Drive and Team Drive backup and restoration

Active Backup for Microsoft 365	Supports Microsoft 365 OneDrive for Business, mail, contacts, and calendar backup and restoration
Active Backup for Business	All-in-one backup solution designed for heterogeneous business IT environment, enabling IT admins to remotely manage and monitor protection over PC, servers and VM on one centralized console

Productivity & Collaboration

Collaboration tools	Collaborate with instant message service Synology Chat, online editor Synology Office, and scheduling assistant Synology Calendar • Chat maximum user: 1,500 • Office maximum user: 1,800 • Calendar: support CalDAV and access via mobile devices
Note Station	Rich-text note organization and versioning, encryption, sharing, media embedding and attachments
Synology MailPlus Server	Secure, reliable, and private mail solution with high-availability, load balancing, security and filtering design (includes 5 free email account licenses; additional accounts require the purchasing of additional licenses)
Synology MailPlus	Intuitive webmail interface for Synology MailPlus Server, customizable mail labels, filters, and user interface

Multimedia

Moments	Support smart AI album with facial and subject recognition, photo editing and sharing features, similar photo detection, auto-editing functions such as color correction and angle adjustments, and AI selection of the best photos. Mobile applications are available on iOS and Android™ devices
Other packages	Video Station, Photo Station, Audio Station, iTunes® Server

Surveillance

Surveillance Station	Maximum IP camera: 40 (total of 1,200 FPS at 720p, H.264) (Including two free camera licenses. Additional cameras require the purchasing of additional licenses)

All-in-One Server

Synology Directory Server	Provide a flexible and cost-effective domain controller solution
Central Management System	Provide a single interface to manage and monitor multiple Synology NAS
VPN Server	Maximum connection: 30. Supported VPN protocol: PPTP, OpenVPN™, L2TP/IPSec
Mail Server	Supported Mail Server protocol: POP3, SMTP, IMAP. LDAP/AD account support
Mail Station	Webmail interface for Mail Server to receive emails from multiple POP3 mailboxes, customizable SMTP server
Web Station	Virtual host (up to 30 websites), PHP/MariaDB®, 3rd-party applications support
Other packages	DNS Server, RADIUS Server, Log Center

Others

Storage Analyzer	Volume and quota usage, total size of files, volume usage and trends based on past usage, size of shared folders, large files, most recently modified files, least recently accessed files
Antivirus Essential	Full system scan, scheduled scan, white list customization, virus definition auto update
iOS/Android™ applications	Synology Drive, Synology MailPlus, Synology Chat, Synology LiveCam, Moments, DS audio, DS photo, DS video, DS cam, DS file, DS finder, DS note
Other packages	Additional 3rd-party packages available on Package Center

Environment and Packaging

Environment safety	RoHS compliant

Package content	• 1 x DS1821+ main unit • 1 x Quick Installation Guide • 1 x Accessory pack • 2 x Hard drive tray key • 1 x AC power cord • 2 x RJ-45 LAN cable
Optional accessories[13]	• DDR4 ECC SO-DIMM: D4ES01-4G/D4ES01-8G/D4ECSO-2666-16G • 10GbE Network Interface Card: E10G18-T2/E10G18-T1/E10G17-F2 • 2.5" SATA SSD: SAT5200 • M.2 2280 NVMe SSD: SNV3400 • Expansion Unit: DX517 • VisualStation: VS960HD/VS360HD • Surveillance Device License Pack • MailPlus License Pack • Virtual DSM License Pack
Warranty	3 years[14]

*Model specifications are subject to change without notice. Please refer to www.synology.com for the latest information.

1. Performance figures obtained through internal testing by Synology. Actual performance may vary depending on the testing environment, usage, and configuration. Comparisons are done against the DS1618+ under specific testing conditions.
2. SSD Cache performance gains are based off random read and write 4KB IOPS for HDD arrays with and without SSD Cache.
3. SSD cache can be enabled without occupying 3.5" drive bays by installing Synology SNV3400 M.2 2280 NVMe SSD drives, sold separately, or by using a compatible drive.
4. DS1821+ supports up to two Synology DX517 expansion units, sold separately.
5. Requires a supported NIC, Synology E10G17-F2, E10G18-T1, E10G18-T2, or other compatible models.
6. 5 MailPlus licenses are included, licenses required for additional user accounts. Learn more about licenses.
7. Certain advanced features require Virtual Machine Manager Pro. 1 Virtual DSM license is included, licenses are required for running additional instances.
8. Surveillance Station includes 2 free licenses. Connecting more cameras and devices requires additional licenses.
9. Check our compatibility list for validated drives to ensure system stability.
10. exFAT Access can be purchased separately through the DSM Package Center.
11. System snapshots include snapshots taken by iSCSI Manager, Snapshot Replication, and Virtual Machine Manager. Availability of these packages varies by model.
12. Presto File Server license can be purchased separately through the application.
13. Please refer to compatibility list for the latest optional accessories list.
14. 5-year warranty is available as an optional add-on with EW201, a 2-year warranty extension. Available only in select regions. The warranty period starts from the purchase date as stated on your purchase receipt. Learn more about our limited product warranty policy.