

# DiskStation

## DS1019+



Synology DiskStation DS1019+ is a 5-bay NAS designed for small offices and professional home users. With versatile built-in applications, DS1019+ easily fulfills your various office requirements, including collaboration, file sharing, data backup and recovery, and is even ready for virtualization deployment. Its 4K video transcoding capability also makes it a perfect fit for streaming and sharing your ultra HD video collections. DS1019+ is backed by Synology's 3-year limited warranty.

### Scalable and Versatile Storage Server for Small Offices

DS1019+ is a 5-bay desktop network attached storage built with excellent performance and scalability, ideally suitable for small offices and IT enthusiasts. With **two M.2 SSD slots supporting NVMe SSD cache**, it significantly reduces I/O latency and increases system performance for I/O-intensive applications. DS1019+ also comes with an expandable storage which can **scale up to 10 drives** when connected to one **DX517<sup>3</sup>**, easily fulfilling high capacity demand with minimal efforts.

Featured with **quad-core processor, 8GB memory (dual-channel 4GB memory module pre-installed)** and **AES-NI encryption engine**, DS1019+ delivers sequential throughput at over **225 MB/s reading and writing<sup>1</sup>**. Built with various applications and advanced data protection technologies, DS1019+ can serve as an all-in-one server for your home or offices.

### 4K Ultra HD Multimedia Library

DS1019+ features real-time transcoding for up to **2 channels of H.264/H.265 4K videos** at the same time, bringing more powerful support to the latest multimedia formats and contents. With **Video Station**, you can organize your personal digital video library based on media information, and watch 4K Ultra HD movies and films. **Audio Station** comes with Internet radio and supports lossless audio formats, providing music playback via DLNA and AirPlay®-compliant devices. The intuitive design of **Photo Station** allows professional photographers to effortlessly organize photos into customized categories or smart albums, and share them to social networks within a few clicks. Serving as a brand new photo solution designed for personal and home use, **Synology Moments** brings users a modern browsing experience through its various features, including mobile photo backup, photo sharing with image recognition technology, similar and duplicate photos detection, editing features (e.g., auto coloring and angle adjustment), and AI photo judging and picking features. Please visit the Synology website for more information on the models offering these features.

### Highlights

- A scalable 5-bay desktop NAS with outstanding performance, ideal for small offices and IT enthusiasts
- Quad-core CPU with AES-NI encryption engine, delivering reading and writing throughput at over 225 MB/s even when data are encrypted<sup>1</sup>
- Loaded with two 4GB DDR3L-1866 memory module, providing 8GB memory capacity in total
- Built-in two M.2 NVMe SSD slots for system cache support
- Dual 1GbE (RJ-45) ports with failover and Link Aggregation support
- Dual-channel H.264/H.265 4K video transcoding on the fly<sup>2</sup>
- Scalable up to 10 drives with one expansion unit DX517 connected<sup>3</sup>
- Support Virtual Machine Manager to run light-weighted virtual machine instances within isolated sandboxes

## Powerful Collaboration Solution

Use the collaboration suite on your Synology NAS to build a private cloud to enhance team cooperation and boost productivity.

- **Synology Drive** allows you to access the data and files on Synology NAS through a unified portal and allows cross-platform synchronization for you to access data from anywhere. You can also install the online editor **Synology Office** and collaborate with others on **Document, Spreadsheet, and Slides**.
- **Synology MailPlus** allows your business to set up a private and reliable mail server with the support of high-availability design and gives your employees an intuitive web-based client to manage emails and boost productivity.
- **Synology Calendar** enables you to manage team schedules, and organize daily tasks effortlessly. Event information can also be synced to your CalDAV clients, allowing you to check schedules anywhere and anytime.
- **Synology Chat** is a web-based application that allows you to start conversations instantly and safely and optimizes companies' internal communications with its powerful information management and interaction features.

## Ultimate Backup Solution

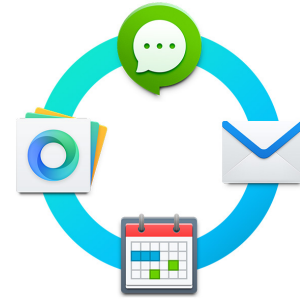
DS1019+ integrates various backup applications to safeguard your important data on any device with an intuitive user interface and durable storage technologies.

- Desktop backup: **Cloud Station Backup** safeguards your PC, Mac, and other desktop devices. DS1019+ is also compatible with Time Machine, allowing you to effortlessly backup your Mac to Synology NAS.
- NAS backup: **Hyper Backup** comprehensively backs up your data to a local shared folder, an external device, another Synology NAS, an rsync server, or a public cloud service to ensure data safety.
- Server/VMware backup: **Active Backup for Business** centralizes backup tasks for VMware virtual machines, Windows PC, servers, and rsync/SMB file servers. Fast and reliable recovery options ensure that the running services, VMs, and files can be recovered instantly.
- SaaS backup: **Active Backup for Office 365/G Suite** is an on-premise backup solution for public clouds with a centralized dashboard, optimizing storage efficiency through the single instancing and block-level deduplication technology.

## Virtual Machine Manager

**DS1019+** is designed with virtualization in mind. **Virtual Machine Manager** enables you to test new software in sandboxes, isolate your customers' machines, and increase the flexibility of your server.

- **Virtual DSM** provides an equally intuitive experience as **DiskStation Manager**, offering a reliable storage solution with robust features.
- **Various Operating Systems Support** lets you run **Windows, Linux, and Virtual DSM** on your Synology NAS in just a few steps.
- **Snapshots for Virtual Machines** is a snapshot technology provided by Virtual Machine Manager, allowing you to perfectly clone and restore a virtual machine within seconds.
- **Live Migration** lets you seamlessly migrate Virtual DSM instances from one Synology NAS to another.
- **Flexible IT Resource Management** allows you to allocate hardware resources such as computing power, storage space, or network interfaces across several virtual machines.
- **Multi-Tenant Environments** allow you to create multiple isolated virtual machines for subsidiary business units or departments.
- **Synology iSCSI Storage** fully supports most virtualization solutions to enhance work efficiency with a simple management interface.



### Synology Collaboration Suite

A powerful and secure private cloud solution for business collaboration and organization, offering intuitive yet effective management options.



### Synology Active Backup Suite

Integrated, modern, and license-free backup and instant recovery solution for business workloads in physical, virtual, and cloud environments.

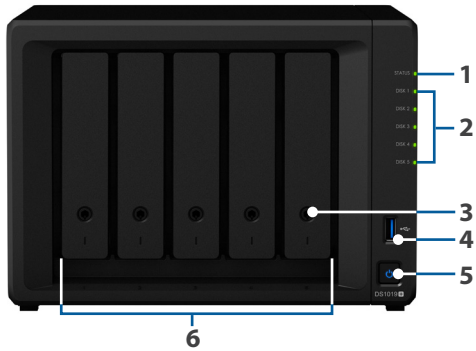


### Virtual Machine Manager

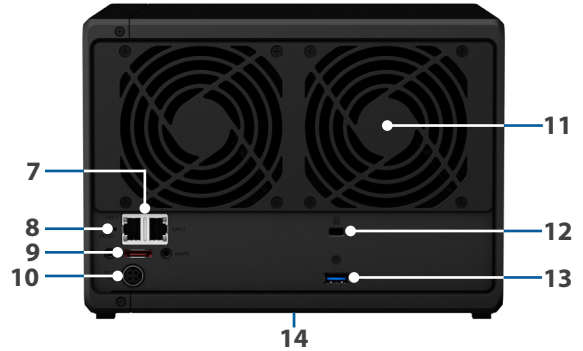
Virtual Machine Manager implements various virtualization solutions, allowing you to manage multiple virtual machines on your DS1019+, including **Windows, Linux, and Virtual DSM**.

# Hardware Overview

Front



Rear



1	Status indicator	2	Drive status indicator	3	Drive tray lock	4	USB 3.0 port
5	Power button and indicator	6	Drive tray	7	1GbE RJ-45 port	8	Reset button
9	eSATA port	10	Power port	11	Fan	12	Kensington Security Slot
13	USB 3.0 port	14	M.2 NVMe SSD slot (bottom side)				

## Technical Specifications

### Hardware

CPU	Intel Celeron J3455 quad-core 1.5GHz, burst up to 2.3GHz
Hardware encryption engine	Yes (AES-NI)
Hardware transcoding engine	<ul style="list-style-type: none"> <li>Supported codecs: H.264 (AVC), H.265 (HEVC), MPEG-2, VC-1</li> <li>Maximum resolution: 4K (4096 x 2160)</li> <li>Maximum frames per second (FPS): 30</li> </ul>
Memory	4 GB DDR3L-1866 Non-ECC SO-DIMM x 2 (provides 8GB memory capacity in total)
Compatible drive type	<ul style="list-style-type: none"> <li>5 x 3.5" or 2.5" SATA HDD/SSD (drives not included)</li> <li>2 x M.2 2280 NVMe SSD (drives not included)</li> </ul>
Hot swappable drive	Yes
External port	<ul style="list-style-type: none"> <li>2 x USB 3.0 port</li> <li>1 x eSATA port</li> </ul>
Size (HxWxD)	166 x 230 x 223 mm
Weight	2.54 kg
LAN	2 x Gigabit (RJ-45)
Wake on LAN/WAN	Yes
Scheduled power on/off	Yes
System fan	2 (92 x 92 x 25 mm)
AC input power voltage	100V to 240V AC
Power frequency	50/60Hz, 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	<ul style="list-style-type: none"> <li>Internal: Btrfs, ext4</li> <li>External: Btrfs, ext4, ext3, FAT, NTFS, HFS+, exFAT<sup>4</sup></li> </ul>
Supported RAID type	Synology Hybrid RAID (SHR), Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10
Storage management	<ul style="list-style-type: none"> <li>Maximum single volume size: 108TB</li> <li>Maximum of system snapshots: 65,536<sup>5</sup></li> <li>Maximum internal volumes: 512</li> </ul>
SSD cache	<ul style="list-style-type: none"> <li>Read-write cache support</li> <li>M.2 NVMe SSD support</li> </ul>

File sharing capability	<ul style="list-style-type: none"> <li>• Maximum local user accounts: 2,048</li> <li>• Maximum local groups: 256</li> <li>• Maximum shared folders: 512</li> <li>• Maximum concurrent SMB/NFS/AFP/FTP connections: 2,000</li> </ul>
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, encryption shared folder, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login autoblock, Let's Encrypt support, HTTPS (customizable cipher suite)
Supported client	Windows 7 and 10, Mac OS X 10.11 onwards
Supported browser	Chrome®, Firefox®, Internet Explorer® 10 onwards, Safari® 10 onwards; Safari (iOS 10 onwards), Chrome (Android™ 6.0 onwards)
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. <ul style="list-style-type: none"> <li>• Maximum number of hosted files: 500,000</li> <li>• Maximum number of concurrent connections for PC clients: 450</li> </ul>
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	High-speed data transfer over WAN with exclusive SITA technology between Synology NAS and desktop <sup>6</sup>
Cloud Sync	One or two-way synchronization with public cloud storage providers including Alibaba Cloud OSS, Amazon Drive, 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	<ul style="list-style-type: none"> <li>• Maximum iSCSI target: 128</li> <li>• Maximum iSCSI LUN: 256</li> <li>• iSCSI LUN clone/snapshot support</li> </ul>
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, Cloud Station Backup Shared folder sync - maximum task number: 32
Snapshot Replication	<ul style="list-style-type: none"> <li>• Maximum of shared folder snapshots: 1,024</li> <li>• Maximum of Replication: 32</li> </ul>
High Availability Manager	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 Office 365	Support Office 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 Chat, online editor Office, and scheduling assistant Calendar <ul style="list-style-type: none"> <li>• Chat maximum user: 1,500</li> <li>• Office maximum user: 1,800</li> <li>• Calendar supports CalDAV and access via mobile devices</li> </ul>
Note Station	Rich-text note organization and versioning, encryption, sharing, media embedding and attachments
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)
MailPlus	Intuitive webmail interface for 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 & duplicate photos detection, photo editing functions such as auto color and angle adjustments, AI photo judging and picking features and iOS and Android mobile applications
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	
Active Directory Server	Provide a flexible and cost-effective domain controller solution
CMS	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, support LDAP/AD account
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, largest/most/least frequently modified files
Antivirus Essential	Full system scan, scheduled scan, white list customization, virus definition auto update
iOS/Android™ applications	Synology Drive, DS audio, DS photo, DS video, DS cam, DS cloud, DS file, DS finder, DS note, Moments, MailPlus
Other packages	Additional 3rd-party packages available on Package Center

## Environment and Packaging

Environment safety	RoHS compliant
Package content	<ul style="list-style-type: none"> <li>DS1019+ main unit x 1</li> <li>Quick Installation Guide x 1</li> <li>AC power adapter x 1</li> <li>Accessory pack x 1</li> <li>RJ-45 LAN cable x 2</li> </ul>
Optional accessories	<ul style="list-style-type: none"> <li>4GB DDR3L-1866 Non ECC SO-DIMM (D3NS1866L-4G)</li> <li>Expansion Unit DX517</li> <li>VisualStation VS360HD, VS960HD</li> <li>Surveillance Device License Pack</li> <li>MailPlus License Pack</li> <li>Virtual DSM License Pack</li> </ul>
Warranty	3 years <sup>7</sup>

\*Model specifications are subject to change without notice. Please refer to [www.synology.com](http://www.synology.com) for the latest information.

- Performance figures may vary depending on environment, usage, and configuration.
- DS1019+ can transcode 4K video to 1080p or lower. The maximum number of concurrent video transcoding channels may vary depending on the video codec, resolution, bitrate and FPS.
- DS1019+ supports one Synology Expansion Unit DX517, sold separately.
- exFAT Access is purchased separately in Package Center.
- System snapshot includes snapshots taken by iSCSI Manager, Snapshot Replication, and Virtual Machine Manager. Availability of these packages varies by model.
- Presto File Server License is purchased separately in Package Center.
- 5-year warranty is available as an optional bundle with EW201, which is an add-on service with 2-year Extended Warranty. Visit [https://www.synology.com/en-global/products/Extended\\_Warranty](https://www.synology.com/en-global/products/Extended_Warranty) for more information on availability.

## **SYNOLOGY INC.**

Synology creates network-attached storage, IP surveillance solutions, and network equipment that transform the way users manage data, conduct surveillance, and manage networks in the cloud era. By taking full advantage of the latest technologies, Synology aims to help users centralize data storage and backup, share files on-the-go, implement professional surveillance solutions, and manage networks in reliable and affordable ways. Synology is committed to delivering products with forward-thinking features and the best in class customer services.

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