

Product Specifications

# RS819



## Hardware Specs

CPU	
CPU Model	Realtek RTD1296
CPU Quantity	1
CPU Architecture	64-bit
CPU Frequency	4-core 1.4 GHz
Hardware Encryption Engine	v
Memory	
System Memory	2 GB DDR4 non-ECC
Notes	Synology reserves the right to replace memory modules with the same or higher frequency based on supplier's product life cycle status. Rest assured that the compatibility and stability have been strictly verified with the same benchmark to ensure identical performance.
Storage	
Drive Bays	4
Maximum Drive Bays with Expansion Unit	8 (RX418 x 1)
Compatible Drive Type* ( <a href="#">See all supported drives</a> )	<ul style="list-style-type: none"><li>• 3.5" SATA HDD</li><li>• 2.5" SATA HDD</li><li>• 2.5" SATA SSD</li></ul>
Hot Swappable Drive	v
Notes	"Compatible drive type" indicates drives that have been tested to be compatible with Synology products. This term does not indicate the maximum connection speed of each drive bay.
External Ports	
RJ-45 1GbE LAN Port	2 (with Link Aggregation / Failover support)

USB 3.2 Gen 1 Port*	2
eSATA Port	1
Notes	The USB 3.0 standard was renamed to USB 3.2 Gen 1 by the USB Implementers Forum (USB-IF) in 2019.
<b>File System</b>	
Internal Drives	<ul style="list-style-type: none"> <li>• Btrfs</li> <li>• EXT4</li> </ul>
External Drives	<ul style="list-style-type: none"> <li>• Btrfs</li> <li>• EXT4</li> <li>• EXT3</li> <li>• FAT</li> <li>• NTFS</li> <li>• HFS+</li> <li>• exFAT</li> </ul>
Notes	exFAT Access can be installed for free from Package Center in DSM 7.0. In DSM 6.2 or earlier versions, exFAT Access needs to be purchased in Package Center.
<b>Appearance</b>	
Form Factor (RU)	1U
Size (Height x Width x Depth)	44 mm x 478 mm x 327.5 mm
Weight	4.34 kg
Rack Installation Support*	<ul style="list-style-type: none"> <li>• 4-post 19" rack (Synology Rail Kit - <a href="#">RKM114/RKS-02</a>)</li> <li>• 2-post 19" rack (direct mounting)</li> </ul>
Notes	The rail kit is sold separately
<b>Others</b>	
System Fan	40 mm x 40 mm x 3 pcs
Fan Speed Mode	<ul style="list-style-type: none"> <li>• Full-Speed Mode</li> <li>• Cool Mode</li> <li>• Quiet Mode</li> </ul>
Power Recovery	v

Noise Level*	28.9 dB(A)
Scheduled Power On / Off	v
Wake on LAN / WAN	v
Power Supply Unit / Adapter	100 W
Redundant Power Supply	-
AC Input Power Voltage	100V to 240V AC
Power Frequency	50/60 Hz, Single Phase
Power Consumption*	28.31 W (Access) 10.1 W (HDD Hibernation)
British Thermal Unit	96.6 BTU/hr (Access) 34.46 BTU/hr (HDD Hibernation)
Notes	Power consumption is measured when it is fully loaded with Western Digital 1TB WD10EFRX hard drive(s).

## Temperature

Operating Temperature	5°C to 35°C (40°F to 95°F)
Storage Temperature	-20°C to 60°C (-5°F to 140°F)
Relative Humidity	5% to 95% RH

## Certification

- FCC
- CE
- BSMI
- EAC
- CCC
- KC
- VCCI
- RCM

## Warranty

3-year hardware warranty, extendable to 5 years with [EW201](#) or [Extended Warranty Plus](#)

## Notes

- Availability varies by region. Before purchasing, please visit the official web pages of [EW201/202](#) and [Extended Warranty Plus](#) for a list of eligible regions.
- The warranty period starts from the purchase date as stated on your purchase receipt. ([Learn more](#))

## Environment

RoHS Compliant

## Packaging Content

- Main Unit X 1
- Accessory Pack X 1
- AC Power Cord X 1
- Quick Installation Guide X 1

## Optional Accessories

- Expansion Units: [RX418](#)
- Rail Kit Sliding: [RKS-02](#)
- Rail Kit Mounted: [RKM114\\*](#)
- VisualStation: [VS360HD](#)
- Surveillance Device License Pack

## Notes

Certain items may not be available in your location. Please contact your local distributors for more information.

## Software Specs

### DSM Specifications

#### Storage Management

Maximum Single Volume Size*	108 TB
-----------------------------	--------

Maximum Internal Volume Number	64
--------------------------------	----

SSD TRIM	v
----------	---

Supported RAID Type	<ul style="list-style-type: none"> <li>• Synology Hybrid RAID</li> <li>• Basic</li> <li>• JBOD</li> <li>• RAID 0</li> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>
RAID Migration	<ul style="list-style-type: none"> <li>• Basic to RAID 1</li> <li>• Basic to RAID 5</li> <li>• RAID 1 to RAID 5</li> <li>• RAID 5 to RAID 6</li> </ul>
Volume Expansion with Larger HDDs	<ul style="list-style-type: none"> <li>• Synology Hybrid RAID</li> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>
Volume Expansion by Adding a HDD	<ul style="list-style-type: none"> <li>• Synology Hybrid RAID</li> <li>• JBOD</li> <li>• RAID 5</li> <li>• RAID 6 (with Expansion Unit)</li> <li>• RAID 10 (with Expansion Unit)</li> </ul>
Global Hot Spare Supported RAID Type	<ul style="list-style-type: none"> <li>• Synology Hybrid RAID</li> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6 (with Expansion Unit)</li> <li>• RAID 10 (with Expansion Unit)</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• Usable capacity for each volume will be lower than the maximum volume size and is dependent on the filesystem and the amount of system metadata stored.</li> <li>• Each internal volume (may consist of multiple drives) is expandable up to 108TB.</li> </ul>

## File Services

File Protocol	SMB/AFP/NFS/FTP/WebDAV
Maximum Concurrent SMB/AFP/FTP Connections	200

Windows Access Control List (ACL) Integration	v
NFS Kerberos Authentication	v
Notes	The testing standard was based on the maximum number of concurrent connections supported by this model. During the testing, 25% of the connections were used to transfer files concurrently. The transfer process guaranteed that the connections were not interrupted; the minimum transfer speed was not guaranteed.

### Account & Shared Folder

Maximum Local User Accounts	2,048
Maximum Local Groups	256
Maximum Shared Folder	256
Maximum Shared Folder Sync Tasks	4

### Hybrid Share

Maximum Hybrid Share Folders	5
Notes	For more details about the maximum number of Hybrid Share folders, check <a href="#">this article</a> .

### Log Center

Syslog Events per Second	400
--------------------------	-----

### General Specifications

Networking Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV
Supported Browsers	<ul style="list-style-type: none"> <li>• Google Chrome</li> <li>• Firefox</li> <li>• Microsoft Edge</li> <li>• Safari</li> </ul>

Supported Language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svenska, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ไทย, 日本語, 한국어, 繁體中文, 简体中文
Notes	For an updated list of supported browser versions, check the <a href="#">DSM Technical Specifications</a> .

## Add-on Packages [view the complete package list](#)

<b>Synology Chat</b>	
Maximum Users	500
Notes	When applicable, systems are tested configured with maximum memory and set to allow the maximum number of connections.
<b>Download Station</b>	
Maximum Concurrent Download Tasks	80
<b>SAN Manager</b>	
Maximum iSCSI Target Number	128
Maximum LUN	256
LUN Clone/Snapshot, Windows ODX	v
Notes	iSCSI Manager has been renamed to SAN Manager in DSM 7.0.
<b>Media Server</b>	
DLNA Compliance	v
<b>Synology Photos</b>	
Facial Recognition	v



## Snapshot Replication

Maximum Snapshots per Shared Folder

256

Maximum of System Snapshots

4,096

## Surveillance Station

Maximum IP cam ([Licenses required](#))

30 (including 2 Free License) ([see all supported IP cameras](#))

Total FPS (H.264)

900 FPS @ 720p (1280×720)  
300 FPS @ 1080p (1920×1080)  
240 FPS @ 3M (2048×1536)  
150 FPS @ 5M (2591×1944)  
110 FPS @ 4K (3840×2160)

Total FPS (H.265)

900 FPS @ 720p (1280×720)  
450 FPS @ 1080p (1920×1080)  
360 FPS @ 3M (2048×1536)  
250 FPS @ 5M (2591×1944)  
180 FPS @ 4K (3840×2160)

Total FPS (MJPEG)

300 FPS @ 720p (1280×720)  
200 FPS @ 1080p (1920×1080)  
130 FPS @ 3M (2048×1536)  
80 FPS @ 5M (2591×1944)

Notes

- Maximum IP cameras and FPS figures are tested with the device fully populated with drives and under a continuous recording setup.
- Actual system capabilities may differ depending on system configuration, drive performance, number of features enabled, and if additional workloads are present.

## Synology Drive

Recommended Number of Concurrent Sync Clients

200 (the number of connections that can be maintained when the recommended number of hosted files was reached)

Recommended Number of Hosted Files

500,000 (applies to files indexed or hosted by [Synology Drive](#). For file access through other standard protocols, refer to the File Services section above)

Notes

- Exceeding the recommended numbers above will not block application operations, but may result in longer response time.
- Btrfs file system and non-encrypted shared folders were used during the aforementioned testing.

## Synology Office

Maximum Users

200

Notes

- Multiple files were opened for testing and each file was edited by 30 users simultaneously.
- Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM

## Video Station

Video Transcoding

Group 2 ([See more](#))

## VPN Server

Maximum Connections

20