

Product

# DS1823xs+



## Hardware Specs

| CPU                                 |  |
|-------------------------------------|--|
| CPU Model                           | AMD Ryzen V1780B   |
| CPU Quantity                        | 1  |
| CPU Architecture                    | 64-bit   |
| CPU Frequency                       | 4-core 3.35 (base) / 3.6 (turbo) GHz   |
| Hardware Encryption Engine (AES-NI) | v  |
| Memory                              |  |
| System Memory                       | 8 GB DDR4 ECC SODIMM   |
| Memory Module Pre-installed         | 8 GB (8 GB x 1)  |
| Total Memory Slots                  | 2  |
| Maximum Memory Capacity             | 32 GB (16 GB x 2)  |
| Notes                               | <ul style="list-style-type: none"><li>• 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.</li><li>• Please select Synology memory modules for optimum compatibility and reliability. Synology will not provide complete product warranty or technical support if non-Synology memory modules are used for memory expansion.</li><li>• For more information about the recommended memory configurations, please check the <a href="#">Hardware Installation Guide</a> of your Synology product.</li></ul> |
| Storage                             |  |
| Drive Bays                          | 8  |

|   |  |
|---|--|
| Maximum Drive Bays with Expansion Unit                              | 18 (DX517 x 2)   |
| M.2 Drive Slots   | 2 (NVMe)   |
| 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 SSD</li> <li>• M.2 2280 NVMe SSD</li> </ul>  |
| Hot Swappable Drive*  | v  |
| Notes   | <ul style="list-style-type: none"> <li>• Synology only guarantees full functionality, reliability, and performance for Synology drives listed on the <a href="#">compatibility list</a>. The use of non-validated components may limit certain functionality and result in data loss and system instability.</li> <li>• The hot swappable drive feature is not supported by M.2 SSD slots.</li> <li>• "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.</li> </ul> |

## External Ports

|                                 |  |
|---------------------------------|--|
| RJ-45 1GbE LAN Port             | 2 (with Link Aggregation / Failover support)   |
| RJ-45 10GbE LAN Port            | 1  |
| Out-of-Band Management LAN Port | 1  |
| USB 3.2 Gen 1 Port*             | 3  |
| eSATA Port                      | 2  |
| Notes                           | This device's 1GbE LAN ports have a maximum transmission unit (MTU) size of 1,500 bytes. |

## PCIe

|                |                            |
|----------------|----------------------------|
| PCIe Expansion | 1 x Gen3 x8 slot (x4 link) |
|----------------|----------------------------|

## File System

|  |   |
|--|---|
| 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> |
| <b>Appearance</b>                          |   |
| Size (Height x Width x Depth)              | 166 mm x 343 mm x 243 mm  |
| Weight                                     | 6.2 kg  |
| <b>Others</b>                              |   |
| System Fan                                 | 120 mm x 120 mm x 2 pcs   |
| Fan Speed Mode                             | <ul style="list-style-type: none"> <li>• Full-Speed Mode</li> <li>• Cool Mode</li> <li>• Quiet Mode</li> </ul>  |
| Easy Replacement System Fan                | v   |
| Brightness Adjustable Front LED Indicators | v   |
| Power Recovery                             | v   |
| Noise Level*                               | 23.6 dB(A)  |
| Scheduled Power On / Off                   | v   |
| Wake on LAN / WAN                          | v   |
| Power Supply Unit / Adapter                | 250 W   |
| Redundant Power Supply                     | -   |
| AC Input Power Voltage                     | 100V to 240V AC   |

|                      |  |
|----------------------|--|
| Power Frequency      | 50/60 Hz, Single Phase   |
| Power Consumption    | 87.93 W (Access)<br>28.37 W (HDD Hibernation)  |
| British Thermal Unit | 300.23 BTU/hr (Access)<br>96.87 BTU/hr (HDD Hibernation)   |
| Notes                | <ul style="list-style-type: none"> <li>• For more information on how power consumption is measured, refer to <a href="#">this article</a>.</li> <li>• Noise testing was conducted with the Synology system fully installed with Synology SATA HDDs and in an idle state. Two G.R.A.S. Type 40AE microphones are placed at a 1 m distance from the front and rear of the device. Background noise: 16.49-17.51 dB(A); Temperature: 24.25-25.75°C; Humidity: 58.2-61.8%</li> </ul> |

## Temperature

|                       |                               |
|-----------------------|-------------------------------|
| 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                  |

## Certification

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

## Warranty

5 Years

|       |  |
|-------|--|
| Notes | The warranty period starts from the purchase date as stated on your purchase receipt. ( <a href="#">Learn more</a> ) |
|-------|--|

## Environment

RoHS Compliant

## Packaging Content

- Main Unit X 1
- Accessory Pack X 1
- AC Power Cord X 1
- RJ-45 LAN Cable X 2
- Quick Installation Guide X 1

## Optional Accessories

- DDR4 ECC SODIMM: [D4ES02-8G/D4ES01-16G](#)
- Expansion Units: [DX517](#)
- 3.5" SATA HDD: [HAT5300](#)
- 2.5" SATA SSD: [SAT5210](#)
- M.2 2280 NVMe SSD: [SNV3410](#)
- 25GbE Network Interface Card: [E25G21-F2](#)
- 10GbE Network Interface Card: [E10G21-F2/E10G18-T2/E10G18-T1](#)
- Surveillance Device License Pack

## Software Specs

## DSM Specifications

### Storage Management

|   |   |
|---|---|
| Maximum Single Volume Size*                               | <ul style="list-style-type: none"><li>• 200 TB (32 GB memory required)</li><li>• 108 TB</li></ul> |
| Maximum Internal Volume Number                            | 256   |
| M.2 SSD Storage Pool Support*                             | v   |
| SSD Read / Write Cache<br>( <a href="#">White Paper</a> ) | v   |
| SSD TRIM  | v   |
| RAID Group  | v   |

|                                      |  |
|--------------------------------------|--|
| Supported RAID Type                  | <ul style="list-style-type: none"> <li>• RAID F1</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>• RAID F1</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>• RAID F1</li> <li>• JBOD</li> <li>• RAID 5</li> <li>• RAID 6</li> </ul>  |
| Global Hot Spare Supported RAID Type | <ul style="list-style-type: none"> <li>• RAID F1</li> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>   |
| Notes                                | <ul style="list-style-type: none"> <li>• Creating M.2 storage pools requires the use of Synology-verified SSDs, which are rigorously tested under extreme temperature conditions. Thermal parameters for SSDs and NAS units are fine-tuned to ensure optimal management of thermal conditions under I/O-intensive environments. (<a href="#">Learn more</a>)</li> <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 108 TB (with memory less than 32 GB) or 200 TB (with memory equal to or greater than 32 GB).</li> </ul> |

|   |  |
|---|--|
| File Protocol   | SMB/AFP/NFS/FTP/WebDAV   |
| Maximum Concurrent SMB/AFP/FTP Connections                      | 2,000  |
| Maximum Concurrent SMB/AFP/FTP Connections (with RAM expansion) | 8,000  |
| Windows Access Control List (ACL) Integration                   | v  |
| NFS Kerberos Authentication                                     | v  |
| Notes   | <ul style="list-style-type: none"> <li>Regarding data concerning tests with RAM expansion, all memory slots are installed with the maximum capacity of supported RAM.</li> <li>During testing, the maximum number of SSDs supported by this model is installed in a RAID 5 configuration.</li> <li>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.</li> </ul> |

### Account & Shared Folder

|                                  |        |
|----------------------------------|--------|
| Maximum Local User Accounts      | 16,000 |
| Maximum Local Groups             | 512    |
| Maximum Shared Folder            | 512    |
| Maximum Shared Folder Sync Tasks | 32     |

### Hybrid Share

|                              |    |
|------------------------------|----|
| Maximum Hybrid Share Folders | 15 |
|------------------------------|----|



## Hyper Backup

Folder and Package Backup

v

Entire System Backup

v

Notes

Full-system backup requires DSM 7.2 or later.

## High Availability

Synology High Availability

v

## Log Center

Syslog Events per Second

3,000

## Virtualization

VMware ESXi 6.5 and VAAI

v

Windows Server 2022

v

Citrix Ready

v

OpenStack

v

## General Specifications

Networking Protocols

SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV

Supported Browsers

- Google Chrome
- Firefox
- Microsoft Edge
- Safari

Supported Language

English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svenska, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ภาษาไทย, 日本語, 한국어, 繁體中文, 简体中文

Notes

For an updated list of supported browser versions, check the [DSM Technical Specifications](#).

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

### Antivirus by McAfee (Trial)

v

### Central Management System

v

### Synology Chat

Maximum Number of  
Concurrent Users

400

Notes

- Measured with simulated users, each with an average record of 20,000 messages, emojis, or stickers. The required server response time is below ten seconds.
- When applicable, systems are tested configured with maximum memory and set to allow the maximum number of connections.

### Document Viewer

v

### Download Station

Maximum Concurrent  
Download Tasks

80

### SAN Manager

Maximum iSCSI Target  
Number

256

Maximum LUN

512

LUN Clone/Snapshot,  
Windows ODX

v

### Synology MailPlus / MailPlus Server

|                                    |   |
|------------------------------------|---|
| Free Email Accounts                | 5 ( <a href="#">Licenses required for additional accounts</a> )   |
| Maximum Number of Concurrent Users | 450   |
| Maximum Server Performance         | 2,029,000 emails per day, approx. 59GB  |
| Notes                              | <ul style="list-style-type: none"> <li>• Models with more than 4 bays were installed with two SSDs for SSD cache.</li> <li>• For tested models with expandable memory, the maximum amount of RAM was installed.</li> <li>• The performance of the mail system will slightly decrease in high-availability mode due to data synchronization between the two servers.</li> <li>• Functions that were enabled in all of the tests above: anti-spam, anti-virus, DNSBL, greylist, content scan, full-text search (English only).</li> </ul> |

## Media Server

|                 |   |
|-----------------|---|
| DLNA Compliance | v |
|-----------------|---|

## Synology Photos

|                    |   |
|--------------------|---|
| Facial Recognition | v |
|--------------------|---|

|                    |   |
|--------------------|---|
| Object Recognition | v |
|--------------------|---|

## Snapshot Replication

|                                     |       |
|-------------------------------------|-------|
| Maximum Snapshots per Shared Folder | 1,024 |
|-------------------------------------|-------|

|                             |        |
|-----------------------------|--------|
| Maximum of System Snapshots | 65,536 |
|-----------------------------|--------|

## Surveillance Station

|  |  |
|--|--|
| Maximum IP cam ( <a href="#">Licenses required</a> ) | 75 (including 2 Free License) ( <a href="#">see all supported IP cameras</a> ) |
|--|--|

|                   |   |
|-------------------|---|
| Total FPS (H.264) | <p>2250 FPS @ 720p (1280×720)</p> <p>2100 FPS @ 1080p (1920×1080)</p> <p>1500 FPS @ 3M (2048×1536)</p> <p>900 FPS @ 5M (2591×1944)</p> <p>550 FPS @ 4K (3840×2160)</p>  |
| Total FPS (H.265) | <p>2250 FPS @ 720p (1280×720)</p> <p>2250 FPS @ 1080p (1920×1080)</p> <p>2250 FPS @ 3M (2048×1536)</p> <p>1500 FPS @ 5M (2591×1944)</p> <p>900 FPS @ 4K (3840×2160)</p>   |
| Notes             | <ul style="list-style-type: none"> <li>• Maximum IP cameras and FPS figures are tested with the device fully populated with drives and under a continuous recording setup.</li> <li>• Actual system capabilities may differ depending on system configuration, drive performance, number of features enabled, and if additional workloads are present.</li> </ul> |

## Synology Drive

|   |   |
|---|---|
| Recommended Number of Concurrent Sync Clients | 900 (the number of connections that can be maintained when the recommended number of hosted files was reached)  |
| Recommended Number of Hosted Files            | 50,000,000 (applies to files indexed or hosted by <a href="#">Synology Drive</a> . For file access through other standard protocols, refer to the File Services section above)  |
| Notes   | <ul style="list-style-type: none"> <li>• Exceeding the recommended numbers above will not block application operations, but may result in longer response time.</li> <li>• Utilizing SSD cache can significantly improve performance.</li> <li>• For tested models with expandable memory, the maximum amount of RAM was installed.</li> <li>• Btrfs file system and non-encrypted shared folders were used during the aforementioned testing.</li> </ul> |

## Synology Office

|               |       |
|---------------|-------|
| Maximum Users | 2,900 |
|---------------|-------|

Notes

- Multiple files were opened for testing and each file was edited by 30 users simultaneously.
- For tested models with expandable memory, the maximum amount of RAM was installed.
- Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM

## Video Station

v

## Virtual Machine Manager

Recommended Virtual Machine Instances

8 ([Learn more](#))

Recommended Virtual DSM Number ([Licenses required](#))

8 (including 1 Free License)

Notes

The specifications vary depending on system configuration and memory size.

## VPN Server

Maximum Connections

60