

Product Specifications

HD6500

Synology

Hardware Specs

CPU	
CPU Model	Intel Xeon Silver 4210R
CPU Quantity	2
CPU Cores	10
CPU Threads	20
CPU Architecture	64-bit
CPU Frequency	2.4 (base) / 3.2 (turbo) GHz
Hardware Encryption Engine	v

Memory	
System Memory	64 GB DDR4 ECC RDIMM
Memory Module Pre-installed	64 GB (32 GB × 2)
Total Memory Slots	16
Maximum Memory Capacity	512 GB (32 GB × 16)
Notes	• Synology may revise pre-installed memory module specifications in response to component lifecycle and supply conditions. All revised components undergo the same rigorous validation to ensure equivalent compatibility, stability, and performance. • 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. • For multi-module memory configurations, all modules must be identical and share the same model number. Check the Product Manual of your Synology product for recommended memory configurations.

Storage

Drive Bays ([See all supported drives](#))

60 × 3.5" SAS HDD or 2.5" SATA SSD

Maximum Drive Bays with Expansion Unit

300 (RX6025sas × 4)

System Drive

2 × 2.5" SATA SSD

Multipath I/O for Expansion Unit

v

Hot Swappable Drive*

v

Notes

- To install 2.5" SATA SSDs, optional 2.5" drive trays (R5) must be purchased separately. [Learn more](#)
- Synology only guarantees full functionality, reliability, and performance for Synology drives listed on the [compatibility list](#). The use of non-validated components may limit certain functionality and result in data loss and system instability.
- Two Synology SATA SSDs are included in the accessory pack for use as system drives.

External Ports

RJ-45 1GbE LAN Port	2
RJ-45 10GbE LAN Port	2
Out-of-Band Management LAN Port	1
Max. Number of LAN Ports	15
USB 3.2 Gen 1 Port	2
Expansion Port	2
Expansion Port Type	Mini-SAS HD
Notes	Besides the 5 built-in LAN ports, up to 10 additional LAN ports can be made available by installing compatible network interface cards (sold separately).

PCIe

PCIe Expansion	• 2 × Gen3 ×16 slot (x16 link) • 2 × Gen3 ×8 slots (x8 link)
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Appearance

Form Factor (RU)	4U
Size (Height × Width × Depth)	176 mm × 482 mm × 1020 mm
Weight	37.9 kg
Rack Installation Support*	4-post 19" rack (Synology Rail Kit - RKS-03)

Others	
System Fan	80 mm × 80 mm × 4 pcs
Fan Speed Mode	• Full-Speed Mode • Cool Mode • Quiet Mode
Easy Replacement System Fan	v
Power Recovery	v
Noise Level	60.8 dB(A)
Scheduled Power On / Off	v
Wake on LAN / WAN	v
Power Supply Unit / Adapter	1600 watts
Redundant Power Supply	v
AC Input Power Voltage	200V to 240V AC
Power Frequency	50/60 Hz, Single Phase
Power Consumption	1025.2 watts (Access) 418 watts (HDD Hibernation)
British Thermal Unit	3495.93 BTU/hr (Access) 1425.38 BTU/hr (HDD Hibernation)
Notes	• Noise Level Testing Environment: Fully loaded with Synology HAS5300-8T hard drive(s) in the idle state. Two G.R.A.S. Type 40AE microphones, each set up 1 meter away from the Synology NAS at the front and rear. Background noise: 16.49-17.51 dB(A); Temperature: 24.25-25.75°C; Humidity: 58.2-61.8% • Power consumption is measured when it is fully loaded with Synology 8TB HAS5300-8T hard drive(s).

Temperature

Operating Temperature	0°C to 35°C (32°F to 95°F)
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Storage Temperature	-20°C to 60°C (-5°F to 140°F)
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Operating Humidity	8% to 80% RH
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Storage Humidity	5% to 95% RH
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Certification

- FCC
- CE
- BSMI
- VCCI
- RCM
- UKCA
- EAC
- KC
- BIS
- UL

Warranty

5 Years

Notes	The warranty period starts from the purchase date as stated on your purchase receipt. (Learn more)
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Environment

RoHS Compliant

Packaging Content

- Rail Kit Sliding: RKS-03 × 1
- Synology SATA SSD X 2
- Main Unit × 1
- Accessory Pack × 1
- AC Power Cord × 2
- Quick Installation Guide × 1

Optional Accessories

- DDR4 ECC RDIMM: [D4ER02-32G](#)
- Expansion Units: [RX6025sas](#)
- Enterprise Series 3.5" SAS HDD: [HAS5300 Series](#)
- Enterprise Series 2.5" SATA SSD: [SAT5200 Series](#)
- 25GbE Network Interface Card: [E25G30-F2](#)
- 10GbE Network Interface Card: [E10G30-F2/E10G30-T2/E10G30-T1](#)
- [2.5" Drive Tray \(R5\)](#)

Notes

For multi-module memory configurations, all modules must be identical and share the same model number. Check the [Product Manual](#) of your Synology product for recommended memory configurations.

Software Specs

DSM Specifications

Storage Management	
Maximum Single Volume Size	1 PB (for RAID 6 groups only) 200 TB
Maximum Internal Volume Number	256
SSD Read/Write Cache (Determining cache size)	v
Storage Efficiency	v
RAID Group	v
Supported RAID Type	- Basic - JBOD - RAID 0 - RAID 1 - RAID 5 - RAID 6 - RAID 10
RAID Migration	- Basic to RAID 1 - Basic to RAID 5 - RAID 1 to RAID 5 - RAID 5 to RAID 6
Volume Expansion with Larger HDDs	- RAID 1 - RAID 5 - RAID 6 - RAID 10
Volume Expansion by Adding a HDD	- JBOD - RAID 5 - RAID 6

Global Hot Spare Supported RAID Type	• RAID 1 • RAID 5 • RAID 6 • RAID 10
Notes	• Certain conditions are required to support a 1 PB volume. Please refer to this article for more information. • Actual maximum storage pool and volume sizes depend on drive sizes used, the number of drive bays available, and the RAID configuration. • 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. • Storage efficiency helps reduce storage space consumption through deduplication and compression. For more information about this feature and its support requirements, please refer to this article. • SSD cache support requires DSM 7.1.1-42962 Update 4 or later versions.

File System

Internal Drives	• Btrfs
External Drives	• Btrfs • ext4 • ext3 • FAT32 • NTFS • HFS+ • exFAT

File Services

File Protocol	• SMB • AFP • NFS • FTP • WebDAV • Rsync
Maximum Number of SMB Connections (FSCT-Based)	8,000
Windows Access Control List (ACL) Integration	v
NFS Kerberos Authentication	v
Notes	• Connection value of this model is tested with Synology SATA HDD fully populated and up to four 10GbE network ports • Models with expandable memory are tested with the maximum supported quantity installed. • SMB performance was evaluated using Microsoft File Server Capacity Tool (FSCT) version 1.3, with the following configuration: ◦ Test workload: HomeFolder scenario provided by the FSCT tool ◦ Test duration: 600 seconds ◦ Domain controller & FSCT controller: Windows Server 2022 ◦ FSCT clients: 8 × Windows 10 machines ◦ SMB feature: Directory leasing enabled

Account & Shared Folder

Maximum Local User Accounts	15,360
Maximum Local Groups	512
Maximum Shared Folder	512
Maximum Shared Folder Sync Tasks	32

Hybrid Share

Maximum Hybrid Share Folders	30
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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
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Log Center

Syslog Events per Second	6,000
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Virtualization	
VMware vSphere	ESXi 8.0 U2, ESXi 8.0 U1, ESXi 8.0, ESXi 7.0 U3, ESXi 7.0 U2, ESXi 7.0 U1, ESXi 7.0
Microsoft Hyper-V	Windows Server 2025, Windows Server 2022, Windows Server 2019, Windows Server 2016
Citrix XenServer	XenServer 8.4, XenServer 8, Citrix Hypervisor 8.2 LTSR CU1
OpenStack	Cinder

General Specifications	
Supported Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV
Supported Browsers	• Chrome • Firefox • 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](#)

Central Management System
v

Synology AI Console

Third-Party AI Model Integration	v
Maximum De-Identification Rate	10,000 words per second
Notes	- De-identification performance measurement: Filters for Credit Card Numbers, IBAN, Individual Taxpayer Identification Number, SSN, and Names applied to a 4,355-word English text. - To enable de-identification, your device must have at least 8 GB of memory and Container Manager installed.

Synology Chat

Maximum Number of Users	500
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. - Models with expandable memory are tested with the maximum supported quantity installed.

SAN Manager

Maximum iSCSI Target Number	256
Maximum LUN	512
LUN Clone/Snapshot, Windows ODX	v

Synology MailPlus / MailPlus Server

Free Email Accounts	5 (Additional accounts require purchase of licenses)
Maximum Number of Users	21,000
Notes	• The suggested maximum number of users is based on the following workload: 20% of users with a 20,000 item mailbox randomly performing actions and receiving 240 emails per day, and 80% of users receiving 20 emails per day. Learn more • Models with SSD support are tested with a single SSD volume. • Models with expandable memory are tested with the maximum supported quantity installed. Learn more about memory requirements. • Operating in high-availability mode will incur additional overhead. • Features enabled during evaluation: anti-spam, anti-virus, DNSBL, greylist, content scanning, and full-text search (English).

Snapshot Replication

Maximum Snapshots per Shared Folder	1,024
Maximum Snapshots per LUN	256
Maximum Snapshots per System	65,536
Maximum Replication Tasks for Shared Folders	128
Maximum Replication Tasks for LUNs	64
Maximum Replication Tasks per System	128

Surveillance Station

Default Licenses	2 (Additional cameras require purchase of licenses)
Maximum IP Cameras and Total FPS (H.264)	• 1080p: 500 channels, 5000 FPS • 3M: 450 channels, 4500 FPS • 5M: 300 channels, 3000 FPS • 4K: 220 channels, 2200 FPS
Maximum IP Cameras and Total FPS (H.265)	• 1080p: 600 channels, 16200 FPS • 3M: 500 channels, 5000 FPS • 5M: 450 channels, 4500 FPS • 4K: 300 channels, 3000 FPS
Notes	• Use NVR Selector to quickly find a suitable model based on your requirements. • The number of video channels that can be viewed simultaneously is double the maximum number of cameras for the same codec and resolution. • The values above are based on testing with RTSP streaming. If SRTP is enabled for all cameras, overall performance will decrease to 70% of the stated figures. • Performance figures are obtained from testing conducted with the device fully populated with drives (5 volumes with 12 drives each volume) under a continuous recording setup. Actual system capabilities may vary based on configuration, drive performance, enabled features, and the presence of additional workloads. • Tested using RAID 6 configuration with the maximum number of supported SAS drives. • Surveillance Station 9.1.3 or above is required to support the maximum IP cameras and FPS figures listed.

Synology Drive

Maximum Number of Users	18,000
Maximum Number of Hosted Files	100,000,000 (applies to files indexed or hosted by Synology Drive . For file access through other standard protocols, refer to the File Services section above)
Notes	• The suggested maximum number of users is based on the following workload: 20% of users randomly perform file operations (upload, download, move, and delete), and 80% of users are logged in but idle. Learn more • Models with expandable memory are tested with the maximum supported quantity installed. • 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 Number of Users	17,500
Notes	• The suggested maximum number of users is based on the following workload: 20% of users are executing random actions at an average of 30-second intervals, and 80% of users are logged in and viewing a file. Learn more • Models with SSD support are tested with a single SSD volume. • Models with expandable memory are tested with the maximum supported quantity installed. • Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM

Virtual Machine Manager

Recommended Virtual Machine Instances	40 (Learn more)
Recommended Virtual DSM Number (Licenses required)	40 (including 1 Free License)
Notes	The specifications vary depending on system configuration and memory size.

VPN Server

Maximum Connections	32
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