

Synology SA6400 NAS Server Empty Enclosure



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Specifications

- **CPU:** AMD EPYC 7272 12-core 2.9GHz (base) / 3.2GHz (turbo)
- **Memory:** 32 GB DDR4 ECC RDIMM (Max Capacity: 1024 GB)
- **Drive Bays:** 12 (Expandable to 108 with RX1223RP x 8)
- **External Ports:** RJ45 1GbE LAN Port, RJ45 10GbE LAN Port, Out-of-Band Management LAN Port, USB 3.2 Gen 1 Port, Expansion Port

- **PCIe:** 4 x PCIe slots with Link Aggregation / Failover support
- **Appearance:** 2U Form Factor, Dimensions: 88 mm x 482 mm x 724 mm, Weight: 16.5 kg
- **Power Supply:** 550W, Redundant Power Supply, AC Input: 100V to 240V
- **Temperature:** Operating Temperature: 5% to 95% RH
- **Warranty:** 5 Years

Product Usage Instructions

Installation and Setup

1. Unpack the main unit and accessories from the packaging.
2. Install any optional accessories as needed.
3. Connect the AC power cords and external devices to the appropriate ports.
4. Power on the system and follow the on-screen instructions for initial setup.

Data Storage

1. Open the drive bays by following the manufacturer's instructions.
2. Insert the compatible drive type into the bay and secure it in place.
3. If hot-swappable, you can add or remove drives without powering down the system.

Network Configuration

1. Access the network configuration menu from the system interface.
2. Assign IP addresses and set up network protocols as needed.
3. Ensure proper cable connections for LAN ports and verify network connectivity.

FAQ

Q: Can I use non-Synology drives in this product?

A: While non-Synology drives may work, it is recommended to use Synology-validated drives to ensure full functionality and reliability.

Q: How do I check the system fan speed?

A: You can monitor the system fan speed through the system interface or system management software provided by Synology.

Hardware Specs

CPU	
CPU Model	AMD EPYC 7272
CPU Quantity	1
CPU Architecture	64-bit
CPU Frequency	12-core 2.9 (base) / 3.2 (turbo) GHz
Hardware Encryption Engine	v
Memory	
System Memory	32 GB DDR4 ECC RDIMM
Memory Module Pre-installed	32 GB (32 GB x 1)
Total Memory Slots	16
Maximum Memory Capacity	1024 GB (64 GB x 16)
Notes	<p>Synology reserves the right to replace memory modules with the same or higher frequency based on the 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.</p> <p>Please select Synology memory modules for optimum compatibility and reliability. Synology will not provide a complete product warranty or technical support if non-Synology memory modules are used for memory expansion.</p> <p>Installing memory modules with differing capacities is not recommended. Check the Hardware Installation Guide of your Synology product for recommended memory configurations.</p>
Storage	
Drive Bays	12

- **Maximum Drive Bays with Expansion Unit** 108 RX1223RP x 8

Compatible Drive Type* (See all supported drives)	3.5" SATA HDD 2.5" SATA SSD
Hot Swappable Drive*	v
Notes	<p>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.</p> <p>"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.</p>
External Ports	
RJ-45 1GbE LAN Port	4 (with Link Aggregation / Failover support)
RJ-45 10GbE LAN Port	2 (with Link Aggregation / Failover support)
Out-of-Band Management LAN Port	1
Max. Number of LAN Ports	15
USB 3.2 Gen 1 Port*	2
Expansion Port	8
Notes	The USB 3.0 standard was renamed to USB 3.2 Gen 1 by the USB Implementers Forum (USB-IF) in 2019.
PCIe	
PCIe Expansion	2 x Gen3 x8 slots (x8 link)
Appearance	
Form Factor (RU)	2U
Size (Height x Width x Depth)	88 mm x 482 mm x 724 mm

Weight 16.5 kg

Rack Installation Support*	4-post 19" rack (Synology Rail Kit – RKS-02)
Notes	The rail kit is sold separately
Others	
System Fan	80 mm x 80 mm x 4 pcs
Fan Speed Mode	Full-Speed Mode Cool Mode Quiet Mode
Easy Replacement System Fan	v
Power Recovery	v
Noise Level*	55.5 dB(A)
Scheduled Power On / Off	v
Wake on LAN / WAN	v
Power Supply Unit / Adapter	550 W
Redundant Power Supply	v
AC Input Power Voltage	100V to 240V AC
Power Frequency	50/60 Hz, Single Phase
Power Consumption	180.5 W (Access) 88.56 W (HDD Hibernation)
British Thermal Unit	615.89 BTU/hr (Access) 302.18 BTU/hr (HDD Hibernation)
Notes	<p>For more information on how power consumption is measured, refer to this article.</p> <p>Noise testing was conducted with the Synology system fully installed with Synology SATA SSDs and in an idle state. Two G.R.A.S. type 40AE microphones were placed at a 1 m distance from the front and rear of the device. Background noise: 16.49-17.51 dB(A); Temperature: 24.25-25.7 5°C; Humidity: 58.2-61.8%.</p>

Temperature	
Operating Temperature	0°C to 35°C (32°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
- VCCI
- RCM
- UKCA
- EAC
- CCC
- KC
- UL

Warranty 5 Years

- **Notes** The warranty period starts from the purchase date asstated on your purchase receipt ([Learn more](#))

Environment

- RoHS Compliant

Packaging Content

- Main Unit X 1
- Accessory Pack X 1
- AC Power Cord X 2
- Quick Installation Guide X 1

Optional Accessories

- DDR4 ECC RDIMM: [D4ER01-32G/D4ER01-64G](#)
- Expansion Units: [RX1223RP](#)
- Enterprise Series 3.5" SATA HDD: [HAT5300 Series](#) Enterprise Series 2.5" SATA SSD: [SAT5200 Series](#)
- M.2 SSD & 10GbE Combo Adapter Card: [E10M20-T1](#)
- M.2 SSD Adapter Card: [M2D20](#)

- 25GbE Network Interface Card: [E25G30-F2](#)
- 10GbE Network Interface Card: [E10G21-F2/E10G30-T2/E10G18-T1](#) Rail Kit Sliding: [RKS-02](#)
- **Notes** All memory modules will operate at the maximum frequency specified by the CPU manufacturer.

Software Specs

DSM Specifications

Storage Management	
Maximum Single Volume Size	1 PB (64 GB memory required, for RAID 6 groups only) 200 TB 108 TB
Maximum Internal Volume Number	256
SSD Read/Write Cache (Determining cache size)	v
SSD TRIM	v
RAID Group	v
Supported RAID Type	RAID F1 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 F1 RAID 1 RAID 5 RAID 6 RAID 10
Volume Expansion by Adding an HDD	RAID F1 JBOD RAID 5 RAID 6
Global Hot Spare Supported RAID Type	RAID F1 RAID 1 RAID 5 RAID 6 RAID 10
Notes	The 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. When Peta Volume is enabled, validated services and packages are required. Please refer to this article for more information on limitations. Volumes over 108 TB require 32 GB of memory or more.
File System	
Internal Drives	Btrfs ext4
External Drives	Btrfs ext4 ext3 FAT NTFS HFS+ exFAT
File Services	

- **File Protocol**
 - SMB
 - AFP
 - NFS
 - FTP
 - WebDAV
 - Rsync

Maximum Concurrent SMB/AFP/FTP Connections	8,000
Maximum Concurrent SMB/AFP/FTP Connections (with RAM expansion)	10,000
Windows Access Control List (ACL) Integration	v
NFS Kerberos Authentication	v
Notes	<p>Regarding data concerning tests with RAM expansion, all memory slots are installed with the maximum capacity of supported RAM.</p> <p>During testing, the maximum number of SSDs supported by this model is installed in a RAID 5 configuration.</p> <p>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.</p>
<u>Account & Shared Folder</u>	
Maximum Local User Accounts	16,000
Maximum Local Groups	512
Maximum Shared Folder	512
Maximum Shared Folder Sync Tasks	32

<u>Hybrid Share</u>	
Maximum Hybrid Share Folders	30
<u>Hyper Backup</u>	
Folder and Package Backup	v
Entire System Backup	v
Notes	Full-system backup requires DSM 7.2 or later.
<u>High Availability</u>	

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	
Supported Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPS, FTP, SNMP, LDAP, CalD AV
Supported Browsers	Chrome Firefox Edge Safari

Supported Language English

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	
Suggested Concurrent Users	1,500
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. When applicable, systems are tested configured with maximum memory, and set to allow the maximum number of connections.
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 (Additional accounts require the purchase of licenses)
Suggested Maximum Users	14,000
Suggested Concurrent Users	2,800
Maximum Server Performance	5,721,000 emails per day, approx. 174 GB
Notes	<p>Models with more than 4 bays were installed with two SSDs for SSD cache.</p> <p>For tested models with expandable memory, the maximum amount of RAM was installed.</p> <p>The performance of the mail system will slightly decrease in high-availability mode due to data synchronization between the two servers.</p> <p>Functions that were enabled in all of the tests above anti-spam, anti-virus, DNSBL, greylist, content scan, full-text search (English only).</p>
Media Server	
DLNA Compliance	v

<u>Synology Photos</u>	
Facial Recognition	v
Object Recognition	v
<u>Snapshot Replication</u>	
Maximum Snapshots per Shared Folder	1,024
Maximum of System Snapshots	65,536
<u>Surveillance Station</u>	
Default Licenses	2 (<u>Additional cameras require the purchase of licenses</u>)

- **Suggested Maximum IPCameras and Total FPS(H.264)**

- **720p:** 200 channels, 6000 FPS
- **1080p:** 160 channels, 2800 FPS
- **3M:** 160 channels, 1600 FPS
- **5M:** 120 channels, 1200 FPS
- **4K:** 80 channels, 800 FPS


Suggested Maximum IP Cameras and Total FPS (H.265)	<p>720p: 300 channels, 9000 FPS</p> <p>1080p: 200 channels, 6000 FPS</p> <p>3M: 160 channels, 2800 FPS</p> <p>5M: 160 channels, 1600 FPS</p> <p>4K: 120 channels, 1200 FPS</p>
Notes	<p>Surveillance Station 9.1.3 or above is required to support the maximum IP cameras and FPS figures listed.</p> <p>Performance figures are obtained from testing conducted with the device fully populated with drives, with their default memory configuration, and under a continuous recording setup. Actual system capabilities may vary based on configuration, drive performance, enabled features, and the presence of additional workloads.</p> <p>Use NVR Selector to quickly find a suitable model based on your requirements.</p> <p>The maximum number of camera stream outputs is 2 times the suggested maximum number of IP cameras. Performance metrics improve with the addition of expansion units. For detailed figures, please refer to this article.</p>
Synology Drive	
Recommended Number of Concurrent Sync Clients	2,000 (the number of connections that can be maintained when the recommended number of hosted files is reached)
Recommended 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	<p>Exceeding the recommended numbers above will not block application operations, but may result in longer response time.</p> <p>Utilizing an SSD cache can significantly improve performance.</p> <p>For tested models with expandable memory, the maximum amount of RAM was installed.</p> <p>Btrfs file system and non-encrypted shared folders were used during the aforementioned testing.</p>
Synology Office	
Suggested Maximum Users	20,000
Suggested Concurrent Users	8,000
Notes	<p>Multiple files were opened for testing and each file was edited by 30 users simultaneously.</p> <p>For tested models with expandable memory, the maximum amount of RAM was installed.</p> <p>Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM</p>

Video Station v

Virtual Machine Manager	
Recommended Virtual Machine Instances	24 (Learn more)
Recommended Virtual DSM Number (Licenses required)	24 (including 1 Free License)
Notes	The specifications vary depending on system configuration and memory size.
VPN Server	
Maximum Connections	60

Documents / Resources

	<p>Synology SA6400 NAS Server Empty Enclosure [pdf] Owner's Manual SA6400 NAS Server Empty Enclosure, SA6400, NAS Server Empty Enclosure, Server Empty Enclosure, Empty Enclosure, Enclosure</p>
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References

- [**S** How is power consumption tested on Synology devices? - Synology Knowledge Center](#)
- [**S** What are the requirements for creating a 1 PB volume? - Synology Knowledge Center](#)
- [**S** How do I determine the optimal SSD cache size for my volumes? - Synology Knowledge Center](#)
- [**S** What is the total FPS value of my Synology model with the use of expansion units? - Synology Knowledge Center](#)
- [User Manual](#)

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