



3.5" SAS HDD

HAS5300

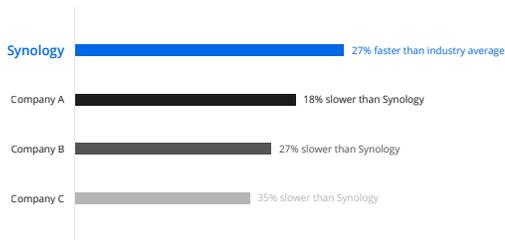


Engineered for Demanding Workloads in Enterprise Environments

Synology HAS5300 is designed to meet the capacity, efficiency, and reliability needs of modern enterprise deployments. Built to handle workloads up to 550 TB per year, it empowers host systems to serve large pools of concurrent clients. With a 2.5 million-hour MTTF and backed by Synology's 5-year limited warranty, HAS5300 meets the highest standards of dependability.

Highlights

- **Enterprise Reliability and Durability**
For demanding 24/7 environments, rated for 2.5 million hours MTTF and up to 550 TB per year workloads
- **Designed for Synology Enterprise Systems**
Over 200,000 hours of stringent validation tests ensure maximum dependability on Synology SA and UC series solutions
- **Persistent Write Cache**
Minimizes the chance of data corruption in the event of sudden power loss
- **Faster Array Rebuild**
Up to 27% faster¹ RAID array repair with firmware fine-tuned and optimized for performance
- **Automatic Firmware Updates**
Firmware updates through DSM simplify maintenance



Shorter RAID Rebuild Times

Synology HAS5300 considerably reduces the time needed to repair degraded RAID arrays compared with similar-class and capacity drives, when used on Synology systems.

Perfect for Scalable and High-Availability Systems

Synology HAS5300 SAS hard drives are specifically developed and tested to provide tight integration with our most scalable SA and highest service availability UC lines of storage systems. Enabling your applications to take full advantage of the bandwidth available, they are the ideal choice for high-capacity, mission-critical workloads that require 24/7 operation.

Optimized firmware and integration with Synology's DiskStation Manager (DSM) operating system running on Synology storage solutions result in up to 27% faster RAID array repair speeds,¹ greatly reducing the time the system spends in a degraded state.

Maximum Durability and Strong Data Protection

Rated for a 550 TB per year workload at a 2.5 million hours MTTf, HAS5300 drives are a safe and reliable choice for any critical data storage application. Persistent write cache technology bolsters data integrity protection and enhances overall write performance.

Over 200,000 hours of validation and stress testing with Synology systems guarantee interoperability for each HAS5300 drive, ensuring maximum reliability on Synology solutions under even the heaviest workloads.

Combined with backup and replication solutions running on Synology DSM, HAS5300 series SAS HDDs provide an additional layer of protection.

Integrated Maintenance

Using Synology drives and host systems simplifies IT deployment. HAS5300 drives are backed by Synology's 5-year limited warranty, providing you with long-term support for your entire system.

Drive firmware updates bundled with DSM updates reduce required maintenance while increasing your systems' service availability.

Technical Specifications

Hardware specifications

Model number	HAS5300-8T	HAS5300-12T	HAS5300-16T
Capacity ²	8 TB	12 TB	16 TB
Form factor ³	3.5"		
Interface	SAS 12 Gb/s		
Sector size	512e		
Performance			
Rotational speed	7,200 rpm		
Interface speed	12.0 Gb/s, 6.0 Gb/s, 3.0 Gb/s, 1.5 Gb/s		
Buffer size ⁴	256 MiB	512 MiB	
Maximum sustained data transfer speed (Typ.)	230 MiB/s	242 MiB/s	262 MiB/s
Reliability			
Mean Time to Failure (MTTF) ⁵	2,500,000 hours		
Workload rating ⁶	550 total TB transferred per year		
Warranty ⁷	5 years		
Power Consumption			
Supply voltage	12 V (±10%) / 5 V (+10/-7%)		
Active Idle (Typ.)	6.62 W	4.36 W	4.46 W
Random Read/Write 4KB Q1 (Typ.)	9.87 W	7.80 W	8.12 W
Environmental			
Temperature	Operating	5°C to 60°C (41°F to 140°F)	
	Non-operating	-40°C to 70°C (-40°F to 158°F)	
Shock	Operating	686 m/s ² {70 g} (2 ms duration)	
	Non-operating	2,450 m/s ² {250 g} (2 ms duration)	
Vibration	Operating	7.35 m/s ² {0.75 G} (5 to 300 Hz), 2.45 m/s ² {0.25 G} (300 to 500 Hz)	
	Non-operating	29.4 m/s ² {3.0 G} (5 to 500 Hz)	
Altitude	Operating	-305 m to 3,048 m	
	Non-operating	-305 m to 12,192 m	
Relative humidity	Operating	5% to 90% R.H. (no condensation)	
	Non-operating	5% to 95% R.H. (no condensation)	
Others			
Size (H x W x D)	26.1 mm x 101.85 mm x 147 mm		
Weight	770 g	720 g	
Certification	CE, RCM, BSMI, KC, EAC, UL, TUV, ICES, UKCA, RoHS		

Note: Model specifications are subject to change without advance notice. Please refer to www.synology.com for the latest information.

1. Performance testing was conducted by Synology using 12x HAS5300-12T drives on an SA3600, configured using RAID 5, against similar class drives (Enterprise) with IOMeter (64KB blocks). Results are for reference only. Actual performance may vary depending on workload, testing methods, and how devices and software are configured.
2. Definition of capacity: Hard drives define a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2^{30} = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity will vary based on file size, formatting, settings, software, and operating system. Actual formatted capacity may vary.
3. "3.5-inch" is the form factor of HDDs. It does not indicate the drive's physical size.
4. A mebibyte (MiB) means 2^{20} bytes, or 1,048,576 bytes. MB/s is 10^6 bytes.
5. Mean Time to Failure (MTTF) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.
6. Workload is defined as the amount of data written, read, or verified by commands from the host system.
7. The warranty period starts from the purchase date as stated on the receipt of purchase. Visit <https://www.synology.com/company/legal/warranty> for more information.
8. Product images are for illustrative purposes only. Actual product may appear with different labeling or housing, which do not affect the performance characteristics of the product.

Safety Information

Waste Electrical and Electronic Equipment recycling (WEEE)



The following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling this product, please contact your local city office, household waste disposal service, or the shop where you purchased the product.

Electrostatic Discharge Warning



Storage drives are susceptible to damage from electrostatic discharge (ESD) during handling. To protect against ESD, take appropriate measures when handling or installing drives. Ensure you are grounded using, e.g., an anti-static wrist wrap and refrain from touching connectors or the circuit board.

SYNOLOGY INC.

© 2021 Synology Inc. All rights reserved. Synology, the Synology logo are trademarks or registered trademarks of Synology Inc. Other product and company names mentioned herein may be trademarks of their respective companies. Synology may make changes to specification and product descriptions at anytime, without notice.

HAS5300-2021-ENU-REV008