



# Reliable storage for NAS File and Object Storage

High capacity NAS HDDs for SOHO and branch-office use that provide 24/365 operational reliability in a range of capacities that allow you grow storage capacities with increasing data and business needs. These devices are well designed for file sharing and as file and object storage for data backup and content archives.

## NAS Hard Disk Drive



## MN Series

### Multi-capacity lineup

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With a wide selection of capacities from 4TB to 18TB, you can choose the best capacity to suit your business or other needs.

### Durability and reliability

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With a durability that can handle an annual workload of 180TB and a reliability that offers an MTTF of up to 1.2 million hours, this series is designed for 24/365 continuous operation.

### High Density Storage expansion

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Thanks to the inclusion of an RV sensor (rotational vibration sensor), these HDDs make stable operation possible for multi-disk platforms of up to eight HDDs in a single enclosure.

## Application

- Home and SMB(Small and Medium Business) NAS
- SMB file and object storage
- Archiving and data back-up
- Private cloud storage



## Specifications (18TB to 12TB Helium-Sealed)

Formatted Capacity	18TB	16TB	16TB	14TB	14TB	12TB
Model Number	MN09ACA18T	MN09ACA16T	MN08ACA16T	MN08ACA14T	MN07ACA14T	MN07ACA12T
Specification						
Mechanical Design	Helium-Sealed					
Interface	SATA 6 Gbit/s					
Form Factor	3.5-inch (Height:26.1 mm, Length:147.0 mm, Wide:101.85 mm)					
Maximum Weight	720 g					
Performance						
Rotation Speed	7200 rpm					
Drive Bay Supported	Up to 8					
RV Sensor	Supported					
Maximum Sustained Data	268 MiB/s	262 MiB/s	248 MiB/s	248 MiB/s	242 MiB/s	242 MiB/s
Buffer Size	512 MiB				256 MiB	
Reliability						
MTTF	1 200 000 hours				1 000 000 hours	
24/7 Operation	Supported					
Workload Rating	180 TB Transferred per Year					
Power Requirements						
Power Consumption	Active	4.14 W	4.03 W	4.54 W	4.54 W	4.28 W
Environmental Requirements						
Temperature	Operating(Surface)	5 to 60 °C	0 to 65 °C	5 to 60 °C		
	Non-Operating	-40 to 70 °C	0 to 70 °C			
Vibration	Operating(Surface)	7.35 m/s <sup>2</sup> { 0.75 G } ( 5 to 300 Hz ), 2.45 m/s <sup>2</sup> { 0.25 G } ( 300 to 500 Hz )				
	Non-Operating	29.4 m/s <sup>2</sup> { 3.0 G } ( 5 to 500 Hz )				
Shock	Non-Operating	2450 m/s <sup>2</sup> { 250 G } ( 2 ms duration )				
Acoustic	Active Idle	20 dB				

• Definition of capacity: Toshiba defines a gigabyte (GB) as 1,000,000,000 bytes and 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<sup>30</sup> = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary. • A mebibyte (MiB) means 2<sup>20</sup>, or 1,048,576 bytes. • MTTF (Mean Time to Failure) 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. • Read and write speed may vary depending on the host device, read and write conditions, and file size. • “3.5-inch” means the form factor of HDDs. They do not indicate drive’s physical size. • Workload is a measure of the data throughput of the year, and it is defined as the amount of data written, read or verified by commands from the host system.

• Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.

# NAS Hard Disk Drive

## Specifications (10TB to 4TB Conventional Air)

Formatted Capacity		10TB	8TB	8TB	6TB	4TB
Model Number		MN06ACA10T	MN06ACA800	MN08ADA800	MN08ADA600	MN08ADA400E(512e) MN08ADA400N(512n)
Specification						
Mechanical Design		Conventional Air				
Interface		SATA 6 Gbit/s				
Form Factor		3.5-inch (Height:26.1 mm, Length:147.0 mm, Wide:101.85 mm)				
Maximum Weight		770 g		720 g	700 g	693 g
Performance						
Rotation Speed		7200 rpm				
Drive Bay Supported		Up to 8				
RV Sensor		Supported				
Maximum Sustained Data		237 MiB/s	230 MiB/s	248 MiB/s	239 MiB/s	243MiB/s(512e) 222MiB/s(512n)
Buffer Size		256 MiB				
Reliability						
MTTF		1 000 000 hours				
24/7 Operation		Supported				
Workload Rating		180 TB Transferred per Year				
Power Requirements						
Power Consumption	Active Idle	7.15 W	6.33 W	5.61 W	4.93 W	4.04 W
Environmental Requirements						
Temperature	Operating(Surface)	0 to 65 °C		5 to 65 °C		
	Non-Operating	-40 to 70 °C				
Vibration	Operating(Surface)	7.35 m/s <sup>2</sup> { 0.75 G } (5 to 300 Hz), 2.45 m/s <sup>2</sup> { 0.25 G } (300 to 500 Hz)		7.35 m/s <sup>2</sup> { 0.75 G } (2 to 300 Hz), 4.90 m/s <sup>2</sup> { 0.50 G } (300 to 350 Hz), 2.45 m/s <sup>2</sup> { 0.25 G } (350 to 500 Hz)		
	Non-Operating	29.4 m/s <sup>2</sup> { 3.0 G } ( 5 to 500 Hz )				
Shock	Non-Operating	2450 m/s <sup>2</sup> { 250 G } ( 2 ms duration )				
Acoustic	Active Idle	34 dB		31 dB		

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**Toshiba Electronic Devices & Storage Corporation**

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