TOSHIBA

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

With a wide selection of capacities from 4TB to 20TB, you can choose the best capacity to suit your business or other needs.

Durability and reliability

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

Thanks to the inclusion of an RV sensor (rotational vibration sensor), these HDDs make stable operation possible for multi-disk platforms of up to 24 HDDs in a single enclosure.

NAS Hard Disk Drive
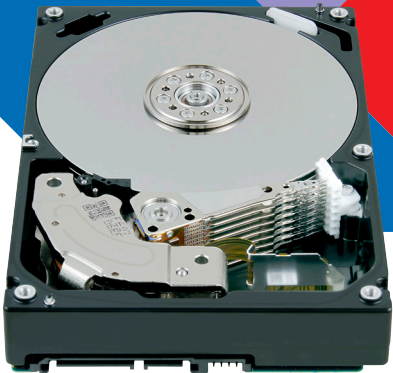
Application

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

Specifications (20TB to 16TB Helium-Sealed)

Formatted Capacity		**20**TB	**18**TB	**18**TB	**16**TB	**16**TB	**16**TB
Model Number		MN10ACA20T	MN10ACA18T	MN09ACA18T	MN10ACA16T	MN09ACA16T	MN08ACA16T
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 24	Up to 8	Up to 24	Up to 8		
RV Sensor		Supported					
Maximum Sustained Data		268 MiB/s					262 MiB/s
Buffer Size		512 MiB					
Reliability							
MTTF		1 200 000 hours					
24/7 Operation		Supported					
Workload Rating		300 TB Transferred per Year	180 TB Transferred per Year	300 TB Transferred per Year	180 TB Transferred per Year		
Power Requirements							
Power Consumption	Active Idle	4.41 W	4.20 W	4.14 W	4.20 W	4.14 W	4.03 W
Environmental Requirements							
Temperature	Operating(Surface)	5 to 60 °C					0 to 65 °C
	Non-Operating	-40 to 70 °C					0 to 70 °C
Vibration	Operating(Surface)	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)					
Shock	Non-Operating	1960 m/s^2 { 200 G } (2 ms duration)	2450 m/s^2 {250 G} (2 ms duration)	1960 m/s^2 {200 G} (2 ms duration)	2450 m/s^2 { 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^{30} = 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^{20}, 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 (14TB to 12TB Helium-Sealed)

Formatted Capacity		**14**TB	**14**TB	**12**TB
Model Number		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		248 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 Idle	4.03 W	4.54 W	4.28 W
Environmental Requirements				
Temperature	Operating(Surface)	0 to 65 °C	5 to 60 °C	
	Non-Operating	0 to 70 °C		
Vibration	Operating(Surface)	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)		
Shock	Non-Operating	2450 m/s^2 { 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^{30} = 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^{20}, 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		**10**TB	**8**TB	**8**TB	**6**TB	**4**TB
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^2 { 0.75 G } (5 to 300 Hz), 2.45 m/s^2 { 0.25 G } (300 to 500 Hz)		7.35 m/s^2 { 0.75 G } (2 to 300 Hz), 4.90 m/s^2 { 0.50 G } (300 to 350 Hz), 2.45 m/s^2 { 0.25 G } (350 to 500 Hz)		
	Non-Operating	29.4 m/s^2 { 3.0 G } (5 to 500 Hz)				
Shock	Non-Operating	2450 m/s^2 { 250 G } (2 ms duration)				
Acoustic	Active Idle	34 dB		31 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^{30} = 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^{20}, 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.

Toshiba Electronic Devices & Storage Corporation

https://toshiba.semicon-storage.com/jp/top.html