



# 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 Internal Hard Drive



## N300 Series

•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. • Availability of retail box sales are subject to each country’s operations.

•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. Product images used do not represent actual products.

Limited Warranty: 3 years

Toshiba Electronics Asia (Singapore) Pte Ltd

www.toshiba-storage.asia

### Multi-Capacity Lineup

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

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

### High Density Storage Expansion

Thanks to the inclusion of RV sensor (rotational vibration sensor), these HDDs make stable operation possible for multi-disk platforms of up to 8 HDDs in a single enclosure.

# N300 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

Formatted Capacity		18TB	16TB	14TB	14TB	12TB
Model Number	Bulk	HDWG51JUZSVA (MN09ACA18T)	HDWG31GUZSVA (MN08ACA16T)	-	HDWG21EUZSVA (MN07ACA14T)	HDWG21CUZSVA (MN07ACA12T)
	Retail	HDWG51JAZSTA	HDWG31GAZSTA	HDWG51EAZSTA	-	HDWG21CAZSTA
<b>Specification</b>						
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		705 g		720 g
<b>Performance</b>						
Recording Technology		CMR (Conventional Magnetic Recording)				
Rotation Speed		7,200 rpm				
Drive Bay Supported		Up to 8				
Rotation Vibration (RV) Sensor		Supported				
Maximum Sustained Data		281 MiB/s	274 MiB/s	281 MiB	260 MiB/s	253 MiB/s
Buffer Size		512 MiB			256 MiB	
<b>Reliability</b>						
MTTF		1,200,000 hours			1,000,000 hours	
24/7 Operation		Supported				
Workload Rating		180 TB Transferred per Year				
<b>Power Requirements</b>						
Supply Voltage		5 VDC +10 % / -7 % 12 VDC ±10 %			5 VDC ±5 % 12 VDC ±10 %	
Power Consumption	Operating	7.48 W	6.91 W	7.38 W	6.77 W	6.49 W
	Active Idle	4.14 W	4.03 W	3.77 W	4.54 W	4.28 W
<b>Environmental Requirements</b>						
Temperature	Operating	5 to 60 °C	0 to 65 °C	5 to 60 °C		
	Non-Operating	-40 to 70 °C				
Vibration	Operating	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	Operating	686 { 70 G } ( 2 ms duration )				
	Non-Operating	2,450 m/s <sup>2</sup> { 250 G } ( 2 ms duration )				
Acoustic	Active Idle	20 db				

Formatted Capacity		10TB	8TB	6TB	4TB
Model Number	Bulk	HDWG11AUZSVA (MN06ACA10T)	HDWG480UZSVA (MN08ADA800)	HDWG460UZSVA (MN08ADA600)	HDWG440UZSVA (MN08ADA400E)
	Retail	HDWG11AAZSTA	HDWG480AZSTA	HDWG460AZSTA	HDWG440AZSTA
<b>Specification</b>					
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		700 g	693 g
<b>Performance</b>					
Recording Technology		CMR (Conventional Magnetic Recording)			
Rotation Speed		7,200 rpm			
Drive Bay Supported		Up to 8			
Rotation Vibration (RV) Sensor		Supported			
Maximum Sustained Data		248 MiB/s	260 MiB/s	250 MiB/s	232 MiB/s
Buffer Size		256 MiB			
<b>Reliability</b>					
MTTF		1,000,000 hours			
24/7 Operation		Supported			
Workload Rating		180 TB Transferred per Year			
<b>Power Requirements</b>					
Supply Voltage		5 VDC +10 % / -5 % 12 VDC ±10 %		5 VDC ±5 % 12 VDC ±10 %	
Power Consumption	Operating	9.48 W	8.41 W	7.72 W	6.84 W
	Active Idle	7.22 W	5.61 W	4.93 W	4.04 W
<b>Environmental Requirements</b>					
Temperature	Operating	0 to 65 °C	5 to 65 °C		
	Non-Operating	-40 to 70 °C			
Vibration	Operating	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 300 Hz )			
Shock	Operating	686 m/s <sup>2</sup> { 70 G } ( 2 ms duration )			
	Non-Operating	2,450 m/s <sup>2</sup> { 250 G } ( 2 ms duration )			
Acoustic	Active Idle	34 dB		31 dB	