

Product Setup Sheet

11/18/2018

HDWxxxxXZSTA

Toshiba N300 NAS Internal Hard Drive (Retail Packaging)

Description

High-Reliability Performance for NAS systems

Toshiba's N300 3.5-inch NAS internal hard drive is designed to meet the reliability, performance, endurance, and scalability requirements of 24/7 network attached storage application for personal, home office and small business use.

The N300 delivers up to 14TB¹ of storage capacity and provides up to 1,000,000 hour MTTF⁸ and designed for 24/7 power-on operation. This drive features rotational vibration (RV) sensors which automatically detect and compensate for transient vibrations to deliver consistent performance in multi-bay storage enclosures.

With support for up to 8 drive bays⁶ in a multi-RAID NAS design, the N300 is highly scalable to the users' NAS configurations as their data storage needs evolve.

The N300 NAS HDD line of high-reliability drives have a high workload rating of up to 180TB/year⁵ and are optimized for use in NAS environments where large amounts of data need to be efficiently stored and accessed daily.

Use for²:

- 1- to 8-bay NAS
- Desktop RAID and servers
- Multimedia server storage

Whether you're hosting a cloud, sharing files between workgroups or powering a high-traffic 24/7 network, Toshiba's N300 NAS hard drive is designed for and delivers the high reliability and performance that home and SOHO NAS users demand.

For over 40 years Toshiba has been developing and manufacturing hard drives. Like all Toshiba products, the N300 3.5" NAS internal hard drive is designed from the ground up with your needs in mind, then tested again and again for reliability. That's why it comes with a solid three-year standard limited warranty⁷ that gives you peace of mind.

For more information on Toshiba's entire line of consumer storage solutions visit <http://storage.toshiba.com/consumer-hdd>.

Product Features³

- **Built for demanding NAS environments**
 - Supports multi-RAID systems with up to 8 bays⁶.
 - Designed for 24/7 operation with workloads up to 180TB/year⁵.
- **Rotational Vibration Compensation Technology**
 - Integrated RV sensors help ensure high reliability against shock and vibrations by detecting and minimizing rotational vibration effects in multi-bay NAS system.
- **Toshiba Cache Technology**
 - On-board cache algorithm and buffer management optimize cache allocation between read and write cycles for improved real-time drive performance.
- **High Performance during intensive operations**
 - Up to 256MB data buffer ensures high performance and fast read speed during data intensive operation.
 - Fast data transfer speed up to 260 MB/s⁴ provides quick access to essential content.
- **Data Protection Technologies**
 - Ramp loading technology reduces wear to the recording head and media for improved drive reliability.
 - Error Recovery Control technology minimizes critical downtime for multi-RAID environment by optimizing data error recovery time.
- **Drive Stabilization Technology**
 - Secured motor shaft at both ends helps reduce system-induced vibrations, stabilizing the platters for improved tracking accuracy and performance during read and write operations.
- **High Durability and Heat Prevention**
 - Adjust seek speed automatically to reduce heat buildup during high temperature operation.
- **Peace of Mind**
 - High reliability with MTTF⁸ up to 1 million hours
 - 3-Year standard limited warranty⁷

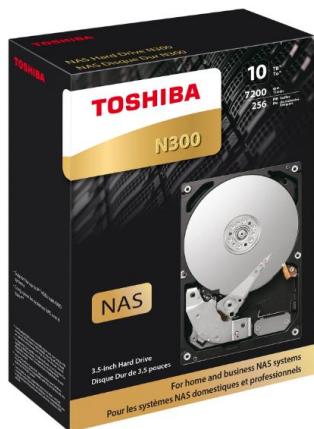
Product Specifications³

Specifications³

- Capacity¹: 4TB/6TB/8TB/10TB/12TB/14TB
- Interface: Serial ATA 3.0 (SATA)
- Interface speed: Up to 6 Gb/s
- Form Factor¹⁰: 3.5 inch
- Rotational Speed: 7200 RPM
- Data Transfer Speed (Sustained)⁴:
 - 14TB: Up to 260 MB/s Typ.
 - 12TB: Up to 253 MB/s Typ.
 - 10TB: Up to 248 MB/s Typ.
 - 8TB: Up to 241 MB/s Typ.
 - 6TB: Up to 241 MB/s Typ.
 - 4TB: Up to 204 MB/s Typ.
- Cache size:
 - 10TB/12TB/14TB: 256 MB
 - 4TB/6TB/8TB: 128 MB
- MTTF⁸: up to 1,000,000 hours
- Workloads⁵: up to 180TB/year
- Drive Bays Supported⁶: up to 8
- Bottom Mounting Holes Configuration*:
 - 4TB: Type 2
 - 6TB/8TB/10TB/12TB/14TB: Type 1
- Operating Temperature:
 - 4TB/6TB/8TB/10TB: 0°C to 65°C
 - 12TB/14TB: 5°C to 60°C
- Supply Voltage:
 - 10TB: 5 V DC +10 / -5 %; 12 V DC ±10 %
 - 4TB/6TB/8TB/12TB/14TB: 5 V DC ±5 %; 12 V DC ±10 %
- Non-recoverable Error Rate: 1 per 10E14

Content

- Toshiba N300 NAS Internal Hard Drive



Retail package image example shown in 10TB model

* Location of bottom mounting hole is different from product. For more information, please visit: <https://toshiba.semicon-storage.com/us/design-support/faq/storage-holes.html>

Product Image



Actual product image example shown in the 10TB model



Actual product image example shown in the 12TB model (14TB model looks similar)



Product image may represent a design model.

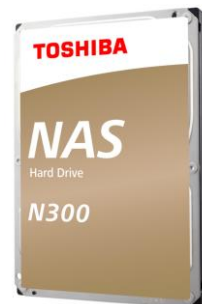


Image does not represent actual product.

Part Set-up Information			
Part Number:	See below	Product Dimensions:	4" (W) X 1.03" (H) X 5.79" (L) {101.85 mm (W) X 26.1 mm (H) X 147 mm (L)}
Product name:	Toshiba N300 NAS Internal Hard Drive (Retail packaging)	Product weight:	4TB/12TB/14TB: 25.4 oz {720 g} max 6TB/8TB/10TB: 27.2 oz {770 g} max
UPC code:	See below	Package dimensions:	7.4" (H) x 5.3" (W) x 2.4" (D) {189.0 mm (H) x 136.0 mm (W) x 60.0 mm (D)}
Master carton UPC:	See below	Package weight:	32.3 oz {915 g} max
ESUP:	See below	Packaging Material:	300P CCWB+E Flute (White) retail box
Product category:	Internal Storage, NAS Storage, High Reliability Drive, NAS hard drives, Network Attached Storage	Master carton quantity:	4 pcs per carton
Warranty⁷:	Three (3) Year Limited Warranty	Master carton dimensions:	10.4" x 5.9" x 8.3" {265 mm x 150 mm x 210 mm}
Availability Date	4TB/6TB/8TB: May 2018 10TB: November 2018 12TB/14TB: December 2018	Master carton weight:	8.6 lb {3914 g} max
Embargo Date:	14 days after availability date	Units per pallet:	480 pcs
Country of origin:	Made in Philippines	Layers per pallet:	5 layers
Package Contents:	Toshiba N300 NAS Internal Hard Drive	Units per Layer	96 pcs
Applications²:	<ul style="list-style-type: none"> • 1- to 8-bay NAS • Desktop RAID and servers • Multimedia server storage 	Minimum Order Qty:	4 pcs
Environmental:	RoHS Compliant ⁹		

Part Number	Capacity ¹	RPM	Cache (MB)	UPC	Master Carton UPC
HDWQ140XZSTA	4TB	7200	128	889661174363	10889661174360
HDWN160XZSTA	6TB	7200	128	889661174349	10889661174346
HDWN180XZSTA	8TB	7200	128	889661174356	10889661174353
HDWG11AXZSTA	10TB	7200	256	723844000264	10723844000261
HDWG21CXZSTA	12TB	7200	256	723844000486	10723844000483
HDWG21EXZSTA	14TB	7200	256	723844000479	10723844000476

¹ One Gigabyte (1GB) means $10^9 = 1,000,000,000$ bytes and One Terabyte (1TB) means $10^{12} = 1,000,000,000,000$ bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of $1\text{GB} = 2^{30} = 1,073,741,824$ bytes and $1\text{TB} = 2^{40} = 1,099,511,627,776$ 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 and other factors.

² Compatibility may vary depending on user's hardware configuration and operating system.

³ Product specifications, configurations, colors, components and features are subject to change without notice.

⁴ The maximum sustained data rate and interface speed may be restricted to the response speed of host system and by transmission characteristics. Read and write speed may vary depending on the host device, read and write conditions, and file size

⁵ Annual Workload Rating: HDDs keep track of various drive usage such as power on hours, lifetime writes and lifetime reads from the host computer. With this data we calculate an Annualized Workload Rate, under 40 deg. C ambient environments, Annualized Workload Rate = (Lifetime Writes + Lifetime Reads) * (8760 / Lifetime Power On Hours) in case Power On time is 8760h or longer. Otherwise (i.e. Power On time is shorter than 8760h), Annualized Workload Rate = (Lifetime Writes + Lifetime Reads) Each drive is designed to perform up to the Annualized Workload Rate stated, after which the drive may be expected to decline. The Annualized Workload Rate in no way alters the warranty policy for such drive

⁶ As for "Drive Bays Supported", please contact your Solutions Provider because the compatibility with the host device will vary based on the system

⁷ Limited Warranty (Americas), full terms and conditions available at <http://storage.toshiba.com/consumer-hdd/support/warranty-info>

⁸ 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.

⁹ Toshiba Storage & Electronic Devices Solutions Company defines "RoHS-Compatible" products as products that either (i) contain no more than a maximum concentration value of 0.1% by weight in Homogeneous Materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) and of 0.01% by weight in Homogeneous Materials for cadmium; or (ii) fall within any of the application exemptions set forth in the Annex to the RoHS Directive (Directive 2011/65/EC of the European Parliament and of the Council of 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment). "Homogeneous Material" means a material of uniform composition that cannot be mechanically disjoined (meaning separated, in principle, by mechanical actions such as unscrewing, cutting, crushing, grinding and/or abrasive processes) into different materials. Examples of "Homogeneous Materials" would be individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

¹⁰ 2.5-inch" and "3.5-inch" mean the form factor of HDDs. They do not indicate drive's physical size.

Information in this document, including product prices and specifications, content of services and contact information, is current and believed to be accurate on the date of the announcement but is subject to change without prior notice.