

Hitachi Travelstar™ 4K40
HARD DISK DRIVES



40GB, 30GB, and 20GB | 4200 RPM | ATA-6

Hard drive artistry – the continued refinement of an industry-leading design

Highlights

- > Based on proven technology of Travelstar 80GN and Travelstar 4K80
- > Industry's highest operating shock of 300Gs
- > Doubling of industry standard load/unload cycles to 600,000
- > Optimized for single disk design
- > Enhancements to mechanical and electrical design

Craftmanship of design

The Hitachi Travelstar 4K40 series continues to redefine state-of-the-art storage for mobile computing. With industry-leading shock characteristics, efficient power consumption, outstanding acoustics, and a range of capacities, the Hitachi Travelstar 4K40 raises the standard for ruggedness. Designed to address the most demanding applications this drive offers customers a stable design platform for even the most advanced portable devices.

The Travelstar 4K40 is based on an industry leading design that has been made even better. Simply put, it is hard drive artistry!

Applications

- > Notebook systems
- > Digital audio
- > Multi-media
- > External storage
- > Portability applications

Features and Benefits

	Feature / Function	Benefits
Reliability	300Gs operating shock 1000Gs non-operating shock	Exceptional ruggedness to withstand tougher handling and improve portability
	600,000 load/unload cycles	Double the industry standard specification
		Reduces disk wear
		Protects user data
	Fewer electrical components	Additional design robustness
	Enhanced Error Correction Code (ECC)	Improved data integrity
Optimized single disk design	Results in improved shock rating	
Acoustics	Fluid Dynamic Bearing Motors (FDB)	Quiet operation
Power	Enhanced Adaptive Battery Life Extender™ (ABLE)	Leading low power for longer notebook battery life

Performance, quality and reliability

Designed with mobile life styles in mind, the Travelstar 4K40 leverages proven technologies such as True Track Servo, which eases system integration, enhances hard disk drive reliability, and adds robustness against vibration and disk shift, Drive Fitness Test™ (DFT), Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) to enable a hard drive to predict impending catastrophic failure, and an adaptive control algorithm to help maintain high performance and fast seek times at high environmental temperatures.

Hitachi quality and service

The Hitachi Travelstar mobile hard disk drives are designed with the highest quality standards and contain field-proven components to provide superior quality hard drives backed by Hitachi warranty. Hitachi provides worldwide technical support and services to enable customers to quickly bring their products to market globally.

Hitachi is dedicated to providing a breadth of hard disk drive solutions to satisfy all of today's data storage needs.

Hitachi Travelstar 4K40

Product	Travelstar 4K40
Model names	HTS424040M9AT00 / HTS424030M9AT00 / HTS424020M9AT00

Specifications

Configuration

Interface	ATA-6
Capacity (GB) ¹	40 / 30 / 20
Sector size (Bytes)	512
Recording zones	24
Data heads (physical)	2 / 2 / 1
Data disks	1
Max. areal density (Gbits/sq. inch)	70

Performance

Data buffer (MB)	2
Rotational speed (RPM)	4200
Latency average (ms)	7.1
Media transfer rate (Mbits/sec, max)	370
Interface transfer rate (MB/sec, max)	100 MB/sec (mode-5)
PIO	16.6 MB/sec (mode-4)
Seek time (read, typical)	
Average (ms)	12
Track to track (ms)	2.5
Full track (ms)	23

Reliability

Error rate (non-recoverable)	< 1 per 1.0 E 13 bits transferred
Load/Unload cycle	600,000

Power

Requirement	+5VDC(+/-5%)
Dissipation	
Startup current (peak, max.)	4.7W
Seek (avg.)	2.3W
Read (avg.)	2.0W
Write (avg.)	2.1W
Performance idle (avg.)	1.85W
Active idle (avg.)	0.85W
Low power idle (avg.)	0.65W
Standby (avg.)	0.25W
Sleep	0.1W
Power consump. efficiency index (W/GB)	0.016 / 0.022 / 0.033

Physical Size

Height (mm)	9.5
Width (mm)	70
Depth (mm)	100
Weight - typical (g)	95

Environmental characteristics

Operating	
Ambient temperature	5° to 55° C
Relative humidity (non-condensing)	8% to 90%
Max. wet bulb (non-condensing)	29.4° C
Shock (half sine wave)	300 G / 2ms
Vibration (random (RMS))	0.67 G (5 - 500 Hz)
Swept sine	1 G 0-P (5 - 500 Hz)
Non-operating	
Ambient temperature	-40° to 65° C
Relative humidity (non-condensing)	5% to 95%
Max. wet bulb (non-condensing)	40° C
Shock (half sine wave)	1000 G / 1 ms
Vibration (random (RMS))	3.01 G (5 to 500 Hz)
Acoustics (A-Weighted Sound Power (Bels))	
Idle (typ.)	2.1
Op (typ.)	2.4
Idle (max.)	2.4
Op (max.)	2.6

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For more information:

Internet:

- > www.hitachigst.com (Main Web site)
- > www.hitachigst.com/vpp (Reseller Web site)

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How to Read the Travelstar Model Number

HTS424040M9AT00 = 40GB/2MB

H = Hitachi

T = Travelstar

S = Standard (vs C for Compact, for example)

42 = 4200 RPM

40 = Full capacity - 40GB

40 = Capacity this model 40=40GB
(30=30GB, 20=20GB)

M = Generation code

9 = 9.5mm z - height

AT = ATA interface

0 = Reserved

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¹ GB equals one billion bytes when referring to hard drive capacity; accessible capacity may be less.