

Hitachi Endurastar® J4K50 and N4K50

HARD DISK DRIVES



50GB, 40GB and 30GB | 4200 RPM | ATA-6

Industrial strength drives built for extreme environments

Highlights

- > Highest capacity Automotive HDD at 50GB; 67% more than prior model
- > Expanded operating temperature range from -30° C to +85° C
- > Highest operating altitude range of up to 5000 meters
- > 4th generation product, based on proven technology

Applications

- > Automotive
- > GPS navigation systems
- > Applications running in hot and humid climates
- > Industrial applications

Built Like a Tank

Hitachi is first to deliver a 50GB per platter Endurastar hard drive for use in extreme environments. The Endurastar J4K50 and N4K50 are offered in capacities of 30 to 50GB. Along with the increased capacity, comes a wider temperature range and improved altitude range. Endurastar J4K50 is designed to operate in the most severe conditions, at temperatures of -30°C to +85°C and altitudes of -300 to +5000 meters. Endurastar N4K50 offers a temperature range of -16°C to +70°C at altitudes of -300 to 3000 meters. The new Endurastar models continue to leverage shock sensor technology for enhanced reliability and the proven technology of Hitachi HDDs for notebook PCs to deliver quiet acoustics and excellent performance.

Features and Benefits

	Feature / Function	Benefits
Capacity	50GB maximum capacity 40GB and 30GB also available	* 12,500 4-minute MP3 songs, or * 17 movies * 50 interactive games
Reliability	-30° C to +85° C operating temperature -300m to +5,000m altitude on J4K50	Performs well in extreme temperature environments
	Shock sensor technology	Informs the drive of poor shock or vibration conditions
	Thermal Fly-height Control (TFC)	Improved soft error rate and performance
Acoustics	Fluid Dynamic Bearing (FDB) motors	Quiet operation

* Actual storage capacity may vary depending on compression rates for stored media.

Hitachi Endurastar drives are designed to guard and deliver your data under the harshest environmental conditions.

Made for the Road

Hitachi Endurastar hard drives deliver the one-two punch of operating at the highest altitude and the most extreme temperatures. These drives are designed to meet the rigors of the automotive environment, including traditional navigation, telematics, in-car entertainment and vehicle relational management.

The implementation of TFC, which enables direct control of the read/write element using heat, provides more consistent spacing between the read/write element and the media, thereby improving robustness and performance. These new Endurastar models are preferred for applications in the most radical environments ranging from desert heat to Antarctic chill.

Hitachi Quality and Service

Hitachi Endurastar hard disk drives are designed to the highest quality standards and contain field-proven components. Hitachi provides worldwide technical support and integration services to enable global customers to bring their products to market quickly.

Hitachi Endurastar® J4K50 and N4K50

Hitachi Global Storage Technologies

Product	Endurastar J4K50	Endurastar N4K50
Model names	HEJ425050F9AT00 HEJ425040F9AT00 HEJ425030F9AT00	HEN425050F9AT00 HEN425040F9AT00 HEN425030F9AT00

Specifications	PRELIMINARY	
Configuration		
Interface	ATA-6	←
Capacity (GB) ¹	50 / 40 / 30	←
Sector size (bytes)	512	←
Recording zones	24	←
Data heads (physical)	2	←
Data disks	1	←
Max. areal density (Gbits/sq.inch)	86.1	←
Performance		
Data buffer (MB) ²	8	←
Rotational speed (RPM)	4260	←
Latency (avg. ms)	7.04	←
Media transfer rate (Mbits/sec, max)	388	←
Interface transfer rate (MB/sec, max)	100MB/sec Ultra DMA mode-5 16.6MB/sec PIO mode-4	←
Seek time (ms)		
Average (typ.)	13	←
Maximum (typ.)	24	←
Minimum (typ.)	3	←
Reliability		
Error rate (non-recoverable)	< 1 per 10 ¹³ bits transferred	←
Load/Unload cycle	600,000	←
Power (@ 25° C)		
Requirement	+5VDC(±5%)	←
Startup (max. peak)	6.50 W	←
Seek (avg.)	2.40 W	←
Read (avg.)	2.15 W	←
Write (avg.)	2.15 W	←
Low power idle (avg.)	0.80 W	←
Standby (avg.)	0.15 W	←
Sleep	0.10 W	←
Physical Size		
Height (mm)	9.5	←
Width (mm)	70	←
Depth (mm)	100	←
Weight (g)	97	←
Environmental Characteristics		
Operating		
Ambient temperature	-30° to +85° C	-16° to +70° C
Relative humidity (non-condensing)	5% - 90%	←
Maximum wet bulb (non-condensing)	40° C	←
Altitude (m)	-300 to +5,000	-300 to +3,000
Shock (half sine wave)	250G/2ms	←
Vibration (sine wave)	Up to 3G (10 - 50Hz)	←
Non-operating		
Ambient temp	-40° to 95° C	←
Relative humidity (non-condensing)	5% - 95%	←
Maximum wet bulb (non-condensing)	42° C	←
Altitude (m)	-300 to +15,000	←
Shock (half sine wave)	800G/1ms	←
Vibration (sine wave)	Up to 5.0G (10 - 500Hz)	←
Acoustics (A-Weighted Sound Power (Bels))		
Idle (typ.)	2.4	←
Op (typ.)	3.0	←

¹ GB equals one billion bytes when referring to hard drive capacity; accessible capacity may be less.
² Space reserved for firmware.



How to Read the Endurastar Model Number

Example:
HEJ425050F9AT00 = 50GB
H = Hitachi
E = Endurastar
J = J4K50 model, N = N4K50
42 = 4200 RPM
50 = full capacity = 50GB
50 = model capacity = 50GB
F = generation code
9 = 9.5mm height
AT = ATA interface
0 = feature code
0 = reserved

For more information:

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