

# Hitachi Announced 1.8-inch Hard Disk, Specialized for Consumer Devices

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With the needs of the consumer electronics (CE) industry top of mind, [Hitachi Global Storage Technologies](#) today announced a new, redesigned 1.8-inch [hard disk](#) drive that is tailored to device manufacturers' needs - easy integration and less space consumption. In doing so, Hitachi has created a sleeker 1.8-inch hard drive that is specialized for consumer electronics.

Hitachi has replaced the standard notebook-based connector on its new Travelstar C4K60 series with a ZIF connector, widely implemented in CE devices today. With the ZIF connector, Hitachi has reduced the footprint of its new drive by 10 percent and enabled easier integration through a common connector, which the CE industry has been using successfully for many years.

In portable consumer electronics, small is cool. This makes Hitachi's CE-focused 1.8-inch drive the coolest cat on the block; the drive offers the smallest footprint (3780 mm<sup>2</sup>) and lightest weight (46 grams) in its class.

"Real estate is precious commodity in consumer devices, which is why we've focused on reducing the space consumption of our 1.8-inch product to help manufacturers make smaller and sleeker devices," said Bob Holleran, general manager, 2.5-inch/ 1.8-inch Consumer & Commercial HDDs, Hitachi Global Storage Technologies. "This move to create a CE-specific hard drive is one of many that Hitachi will be making to serve this growing market in a very focused way."

Size and weight aren't the only important factors in designing hard drives

for the CE space. Cramming the greatest amount of data onto a hard disk is also important to enable high capacities in increasingly smaller devices. The C4K60 achieves that objective with an areal density of 99.8 gigabits per square inch, which leads the category for the 1.8-inch segment. At this density, Hitachi is making possible 30 gigabytes (GB)\*\* of storage capacity on a single disk.

"Hitachi is clearly demonstrating that it's taking the CE segment seriously with this new drive," said John Donovan, vice president of TrendFocus. "Because of its size, high storage capacity and shock specifications, the 1.8-inch hard drive segment is defining the use of hard drives in consumer electronic devices where the balance between device size and high capacity is key."

## **Focused On Consumer**

Hitachi has considered both the needs of CE end-users and device manufacturers in creating the Travelstar C4K60 series.

"Our goal in adding and fine-tuning features on our new 1.8-inch drive is to make it the 'essential gear' for consumer devices, alongside our award-winning one-inch Microdrive and 2.5-inch Travelstar products," said Holleran.

For device manufacturers, the ZIF connector on Hitachi's new drive provides size- and ease-of-integration benefits, but it may also result in lower design and integration costs and greater reliability. Additionally, the ZIF connector, which allows the drive to talk to the host device through a flex cable, gives manufacturers greater flexibility in mounting schemes. For example, manufacturers could mount the Travelstar 1.8-inch drive in a floating scheme and implement dampening or insulative materials around the drive for even better shock protection. The ZIF connector also makes for more reliable devices through its

reduced pin-count - 40 compared to the 50 on the notebook-based connectors.

At 500 Gs operating and 1200 Gs non-operating, the C4K60 series already provides excellent shock protection, making the 1.8-inch category the best shock performer among all other hard disk drive categories. This is a boon for active consumers who often give their portable CE devices a workout in daily usage.

High-quality sound in portable entertainment devices is also of great importance to consumers. But being light on its feet doesn't make the Travelstar C4K60 series a lightweight in acoustics; the drive offers excellent noise-reduction technology to optimize users' listening experience. The drive's sound emission at idle and seek operation (1.6- and 2.2-bels, consecutively) are extremely low and undetectable by the human ear. This adds significantly to the user experience, especially in music and video applications where 1.8-inch hard drives are growing in popularity.

The power-management features of Hitachi's new 1.8-inch drive are targeted at providing optimum conservation in the modes at which the drive spends most of its time: idle, read and standby. The C4K60 series offers the best combination of power consumption in these modes, enabling up to 32 hours\*\*\* of play time in the average digital music device.

"Hitachi has done a good job of listening to what is important to us in making and selling CE devices with hard disk drives, especially in the portable segment," said Mr. Chua Hiap Chew, vice president, Personal Digital Entertainment Products, Creative Technology. "Size, capacity points, connector, power consumption and shock must all be considered differently than for IT applications, and Hitachi has done an admirable job in creating the right balance of all these factors in its new 1.8-inch

CE product."

The Travelstar C4K60 series for consumer electronics operates at 4200 RPM and is available in 20- and 30-GB capacities -- the most popular capacity points for the MP3 segment, where 1.8-inch drives are most prevalent.

**Technical Specifications** Travelstar C4K60 series

20/30 GB

7.0 mm in height

4,200 rpm

99.8 billion bits per square inch maximum areal density

1/1 glass disk platter(s)

2/2 GMR recording head(s)

1200 G/1ms non-operating shock,

500 G/2ms operating shock

7.1 ms average latency

15 ms average seek time

ATA-6 100 MB/sec maximum interface transfer rate

46/46 weight in grams

1.6/1.6 Bels typical idle acoustics

2.2/2.2 Bels typical operating acoustics

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