

Daytona™

Overview

The Quantum Daytona products are high-capacity 2.5-inch hard disk drives that provide unmatched mass storage solutions for slim subnotebook and full-featured notebook computers.

The Daytona 256 is the first device to offer subnotebook users 256 MB of formatted storage capacity in a 12.5-mm-high package. The Daytona 514, a 19-mm-high device with 514 MB of storage, offers top capacity for full-function notebook computers. Completing the Daytona family are 127 MB and 170 MB, 12.5-mm-high drives for subnotebooks and a 341 MB, 19-mm-high drive for notebooks.

All five Daytona drives bring desktop PC performance to notebook computing with a fast internal data transfer rate of 36 Mbits/second. Daytona performance benefits from a common architecture shared with two Quantum families of high-performance 3.5-inch drives. Matching features include a multi-segmented adaptive cache, local bus support with fast multiword DMA, and AutoRead and AutoWrite technology.

The Daytona drives leverage most strongly off the design of Quantum's earlier Go•Drive GLS line of 2.5-inch devices. They share GLS' highly integrated electronics, which consists of only five chips, as well as its firmware base. This leveraged approach to design eases qualifications and improves product availability.

The Daytona drives feature exceptional ruggedness with a very high level of protection against non-operating shock. For energy efficiency, the drives comply with industry standards on power consumption, drawing only 0.2 watts of power in standby mode.

Reliability Features

ShockLock Pivoting Magnetic Latch

An innovative pivoting magnetic latch protects the drives from short-duration, non-operating shocks as high as 300Gs, which is the highest level of protection offered by 2.5-inch disk drives. The magnetic latch swings away from the drive's actuator to eliminate disturbance when inner tracks are read.

Error Correction Code (ECC) On-the-Fly

The Daytona products use a custom ASIC to implement a state-of-the-art error correction code that maintains data integrity at high throughput rates.

Performance Features

The Daytona products feature Adaptive Segmentation for more efficient cache use. With this feature, the buffer space needed for read and write operations is dynamically allocated, which yields higher throughput from a given buffer size.

DisCach and WriteCache Firmware

DisCache firmware optimizes disk drive performance by speeding data access times and data retrieval, and increasing throughput. Quantum's proprietary WriteCache firmware all transfer of a prior command is still executing.

Power Conservation Features

StackWrite Firmware

StackWrite firmware can save up to 13 percent of battery power while providing faster system response. The unique firmware accumulates write requests in buffer memory instead of directly onto the disk when the Daytona drives are in standby mode under battery power.

Autoidle and AutoPark

To conserve battery power, the actuator motor on the Daytona products can be shut down after five seconds of inactivity—without host intervention. With the new AutoPark mode, Daytona's heads are automatically parked over the dedicated landing zone when AutoIdle is initiated.

ATA Compliance

Daytona drives with an AT interface incorporate all the energy-efficient modes defined by ATA/CAM (AT Attachment/Common Access Method).

Versatility Features

MCC Compatibility

The Daytona disk drives conform to the latest standards of the Manufacturers Compatibility Committee (MCC). As a result, the drives can easily slide into position and connect directly to a hard-mounted connector on a notebook's motherboard.

AT Bus Cable Select Hardware

Automatic cable-select hardware simplifies disk drive installation by eliminating the need for a physical master/slave jumper. This is ideal for removable drive applications, when the same Daytona drive is a master in a notebook computer and a slave when used with a desktop computer.

Key Features

- DisCache® and WriteCache
- Defect Free Interface® Firmware
- Adaptive Segmentation
- DiskWare
- AutoRead and AutoWrite
- ShockLock
- AutoTransfer
- AutoIdle and AutoPark
- Local Bus with I/O Channel Ready

- StackWrite
- Fast Multiword DMA Support
- MCC Compatibility
- 112-bit Reed Solomon ECC On-the-Fly
- AT Bus Cable Select