

DATA STORAGE DEVICE AND METHOD FOR IMPROVING DISK DRIVE
PERFORMANCE USING EARLY DATA TRANSFER

ABSTRACT

A data storage device and method for improving the performance of data storage devices examines a command queue and performs data transfers to memory within the device before prior commands have completed. A process running in the idle loop of the controller (10) in the storage device (20) checks the queue for write requests in step (42), and if a cache space within a dual-port cache (14) to hold the transfer data is available in step (44), the data transfer portion of the transfer is completed in step (46), while the device (20) is still waiting for completion of prior commands in the queue, and data transfers are completing from the cache (14) to the physical media (26) for the prior command.

FIG 1