DISK DRIVE FOR PORTABLE COMPUTER WITH ADAPTIVE DEMAND-DRIVEN POWER MANAGEMENT

ABSTRACT

A data recording disk drive (40) for use in a portable, battery-powered computer has several power-save modes of operation. The power-save modes are entered after a computed time since the last data read or write command. The computed time to enter a power-save mode is based on the computer user's real-time workload and is thus continuously varying during operation of the disk drive (40). The disk drive (40) detects the current user workload by calculating the frequency of disk drive accesses and based on this history determines which of a plurality of power-save modes is appropriate and when to enter a power-save mode. Each disk drive (40) read or write access is detected and used to compute a current access frequency. The current access frequency is compared to a previously calculated and continuously updated threshold frequency. The threshold frequency is representative of the access pattern.

Fig. 1