

MIXED-SIGNAL SINGLE-CHIP INTEGRATED SYSTEM ELECTRONICS FOR MAGNETIC HARD DISK DRIVES

ABSTRACT OF THE DISCLOSURE

An integrated HDD system provides RDC, servo logic, ATA interface, microprocessor, and other formerly discrete components in one integrated circuit (IC). The IC is rendered using a single IC technology type (e.g., digital CMOS) for all components. Analog and digital circuits are combined in a manner so as to eliminate or reduce noise or interference in digital circuits from analog circuit components. The invention takes advantage of existing circuit design modules provided in the IC as "hard block" components. Changes in operability of the IC may be readily achieved by altering "soft block" components to tailor the design for a particular hard drive. Individual elements may have their outputs and inputs MUXed together such an element may be selectively switched (during testing modes) such that the IC behaves in the same or similar manner as one of the prior art components.

