

MICRO-ACTUATOR TRANSDUCER STACK

INERTIA CANCELLATION CONTROL

ABSTRACT OF THE DISCLOSURE



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A micro-actuator of a head suspension is either (i) wired in reverse polarity to effect movement of the suspension arms (32) in opposing directions relative to the magnetic disks (28) or (ii) reversed in physical orientation and wired identically. This permits a single micro-actuator control signal to control all micro-actuators and thereby cancel the effects of inertia of the suspension arms (32) and the read/write heads (50) on the actuator arms (18). This benefit can be achieved as half of the suspension arms (32) and magnetic heads (50) move in one direction while, simultaneously, the other half of the suspension arms (32) and magnetic heads (50) move in a second, opposite direction in response to a single control signal, simplifying wiring and control electronics. The counter-movement of the suspension arms (32) and magnetic heads (50) counter inertial forces and expedite the settling into their stable recording/reading positions, thereby reducing seek times and improving disk drive performance.

FIG. 3