

ELECTROSTATIC MICROACTUATOR WITH ELECTRICALLY ISOLATED MOVABLE
PORTION AND ASSOCIATED DRIVE CIRCUITRY

Abstract of the Disclosure

A bidirectional electrostatic rotary microactuator has two sets of fixed electrodes, one set for driving the microactuator counterclockwise and the other set for driving it clockwise, and a rotatable frame that has movable electrodes attached to its outer wall and interleaved between the fixed electrodes. A layer of insulating material is located between the outer wall to which the movable electrodes are attached and the remainder of the frame so that the movable electrodes are electrically isolated. The frame is maintained at ground electrical potential and the movable electrodes at a fixed non-zero electrical potential. The microactuator is driven by applying a plus or minus voltage to one set of fixed electrodes and the opposite voltage to the other set, while maintaining the movable electrodes at a fixed non-zero voltage. The microactuator is usable as a secondary actuator in a disk drive for fine positioning the read/write head.

Figure 6