



162162



G00002

ABSTRACT

SHEAR MODE PIEZOELECTRIC ACTUATOR ASSEMBLY

5 The invention provides a piezoelectric actuator assembly operable to position a positioned element such as a slider in a hard-disk drive. Embodiments of the invention include at least one shear mode piezoelectric element, with corresponding structure through which force is applied to the positioned element to position it in response to a control signal supplied to the piezoelectric element.

10 In one embodiment a shear mode piezoelectric element is mounted at the back side of a data slider. Arms mounted to each end of the piezoelectric element extend around the slider and hold the slider between a pair of hinge assemblies at the ends of the arms. The arms are configured to move the slider when a voltage is applied to the piezoelectric element. In another embodiment, four piezoelectric

15 elements are arranged in a rectangular configuration, two on each side of the data slider or other positioned element. Flexible members extend between the two elements of each pair on each side of the slider, and are configured to apply force to either side of the slider to move the slider to a degree that depends on the magnitudes of the control signals applied to the piezoelectric elements.

20 (Figure 4)