

**MAGNETORESISTIVE SENSOR HAVING BIAS MAGNETS
WITH STEEP ENDWALLS**

ABSTRACT OF THE INVENTION

5 A magnetoresistive sensor has bias magnets with
substantially vertical end walls. The offset between
the bias magnets and the free layer is optimized by
adjusting the thickness of a spacer layer. A disk
drive has a read element including a magnetoresistive
10 sensor with optimized bias magnets having substantially
vertical end walls.