

a read element for reading data from said disk said read element including a spin valve magnetoresistive sensor, wherein said spin valve magnetoresistive sensor comprises

a ferromagnetic pinned layer;

a conducting nonmagnetic layer disposed over said pinned layer;

a ferromagnetic free layer disposed over said conducting nonmagnetic layer;

a nonmagnetic coupling layer disposed over said free layer, said nonmagnetic coupling layer having a first portion and a second portion;

a first antiparallel coupled bias stabilization tab comprising: a first ferromagnetic bias layer formed over said first portion of said nonmagnetic coupling layer, a first cap layer formed over said first ferromagnetic bias layer, and a first protective cap layer formed over said first cap layer; and,

a second antiparallel coupled bias stabilization tab comprising: a second ferromagnetic bias layer formed over said second portion of said nonmagnetic coupling layer, a second cap layer formed over said second ferromagnetic bias layer, and a second protective cap layer formed over said second cap layer.

**8.** A disk drive as in claim 7 wherein said nonmagnetic coupling layer is formed from ruthenium.

**9.** A disk drive as in claim 7 wherein said first cap layer and said second cap layer are formed from tantalum.

**10.** A disk drive as in claim 7 wherein said first protective cap layer and said second protective cap layer are formed from rhodium.

**11.** A disk drive as in claim 7 wherein said first protective cap layer and said second protective cap layer are formed from gold.

**12.** A disk drive as in claim 7 wherein said first protective cap layer and said second protective cap layer are formed from ruthenium.

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