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ABSTRACT

MAGNETORESISTIVE READ TRANSDUCER

A magnetoresistive (MR) read transducer is disclosed having passive end regions separated by a central active region in which an MR layer is formed over substantially only the central active region and in which a magnetic bias layer is formed in each passive end region. In one embodiment, each of the magnetic bias layers includes a layer of ferromagnetic material and a layer of antiferromagnetic material overlaying and in contact with the ferromagnetic layer to provide an exchange-coupled magnetic bias field. Alternatively a hard magnetic material is used to form the biasing layer. Each of the magnetic bias layers form an abutting junction having magnetic and electrical continuity with the MR layer to produce a stable longitudinal magnetic bias field in the transducer, even when the length of the active region is small to accommodate small track widths.

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