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(71) Applicant *(for all designated States except US)*: **SEAGATE TECHNOLOGY LLC** [US/US]; 920 Disc Drive, P.O. Box 66360, Scotts Valley, CA 95067-0360 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **GIRT, Erol** [CA/US]; 2704 College Avenue #4, Berkeley, CA 94705 (US).

(74) Agents: **HANKINS, John, A.** et al.; McDermott, Will & Emery, 600 13th Street, N.W., Washington, DC 20005-3096 (US).

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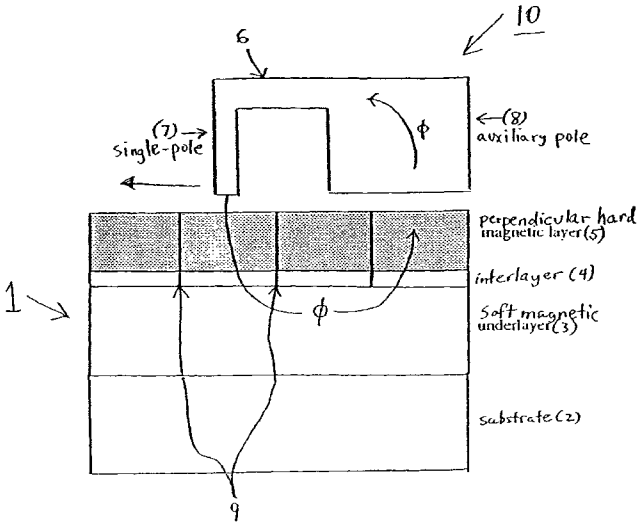
(54) Title: ANTI-FERROMAGNETICALLY COUPLED PERPENDICULAR MAGNETIC RECORDING MEDIA



(57) Abstract: A high areal recording density, anti-ferromagnetically coupled ("AFC") perpendicular magnetic recording medium comprises: a layer stack formed over the surface of a non-magnetic substrate (2), comprising, in overlying sequence: an underlayer (3) comprised of a magnetically soft ferromagnetic material; at least one non-magnetic interlayer (4); a perpendicularly anisotropic stabilization layer (6) comprised of a hard ferromagnetic material; a non-magnetic spacer layer (7); and a perpendicularly anisotropic main recording layer (5) comprised of a hard ferromagnetic material; wherein the perpendicularly anisotropic stabilization layer (6) and the perpendicularly anisotropic main recording layer (5) are anti-ferromagnetically coupled (AFC) across the non-magnetic spacer layer (7) to orient the magnetic moments thereof anti-parallel and thereby provide the medium with increased SMNR and thermal stability.

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