CORRECTED VERSION*

18 MAR 200

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G11B 5/39 — A1

(11) International Publication Number: WO 00/30077

(43) International Publication Date: 25 May 2000 (25.05.00)

(21) International Application Number: PCT/US99/23119

(22) International Filing Date: 6 October 1999 (06.10.99)

(30) Priority Data:

60/109,288	18 November 1998 (18.11.98)	US
60/116,763	22 January 1999 (22.01.99)	US

(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Applications

US	60/109,288 (CON)
Filed on	18 November 1998 (18.11.98)
US	60/116,763 (CON)
Filed on	22 January 1999 (22.01.99)

(71) Applicant *(for all designated States except US)*: SEAGATE TECHNOLOGY, INC. [US/US]; 920 Disc Drive, Scotts Valley, CA 95066 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: EVERITT, Brenda, Anne [US/US]; 5213 Washburn Avenue, Minneapolis, MN 55410 (US). POKHIL, Taras, Grigorievich [RU/US]; 1139 Pleasant Circle, Arden Hills, MN 53712 (US).

(74) Agent: O'BRADOVICH, Greg, J.; Fish & Richardson P.C., Suite 2800, 45 Rockefeller Plaza, New York, NY 10111 (US).

(81) Designated States: DE, GB, JP, KR, SG, US.

Published
With international search report.

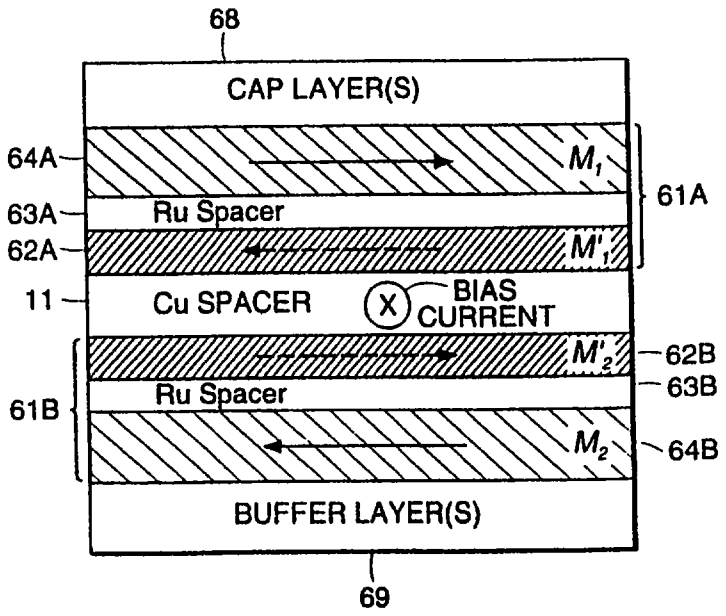


G00002

162162



(54) Title: DIFFERENTIAL VGMR SENSOR



(57) Abstract

A Vertical Giant Magnetoresistive Sensor (VGMR) with two VGMR structures (61A, 61B), each responding differently to an external magnetic field, producing a differential signal proportional to the field. The magnetizations (M1, M1', M2, M2') in each of the sensors are oriented antiparallel. The antiparallel magnetization is attained by altering the magnetic compositions of the two structures, or adding an additional structure such as a permanent magnet or current strip (11) between the VGMR structures.

18 MAR 2003

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PC

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		